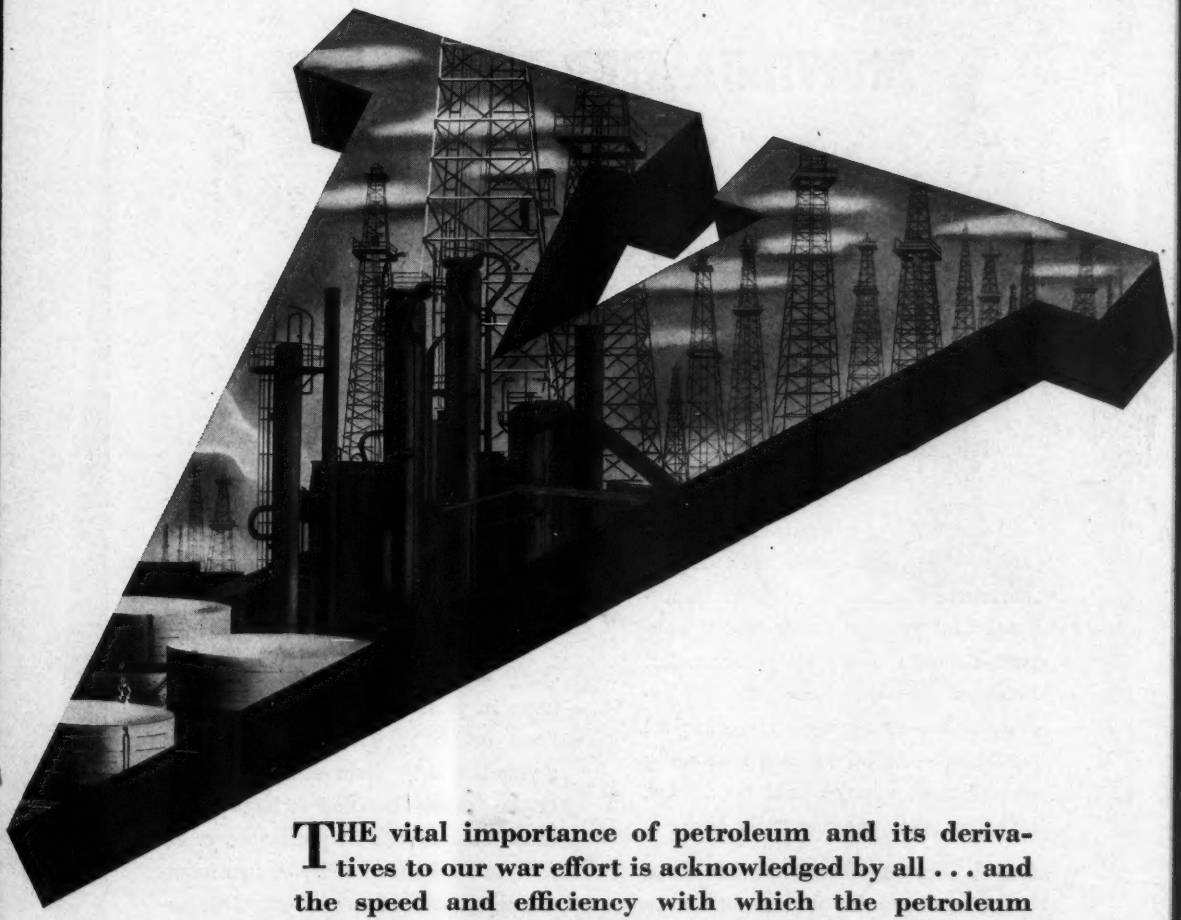
CALIFORNIA
OIL WORLD
Petroleum Industry

"OIL IS AMMUNITION . . ."

JUN 22 1942

we are helping to keep it flowing



THE vital importance of petroleum and its derivatives to our war effort is acknowledged by all . . . and the speed and efficiency with which the petroleum industry is now producing is a matter of national pride.

With full appreciation of their responsibility as designers and builders of petroleum-handling equipment, Worthington engineers offer their services . . . first, in checking performance of installed units with a view to the continued operation of such equipment at top efficiency . . . and second, for the planning of new equipment for readjustment or expansion of plant facilities.

WORTHINGTON PUMP AND MACHINERY CORPORATION

General Offices: HARRISON, NEW JERSEY

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WORTHINGTON

Vol. 35
No. 11
Whole
No. 1610

Crum-Brainard

INDIVIDUALIZED BIT SERVICE FOR YOUR SPECIFIC FIELD CONDITIONS

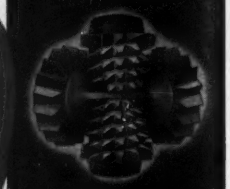
★ With time and equipment at a premium today, it is of vital importance that you get every foot of hole possible from every bit you run. But because no two formations drill exactly alike — regardless of geological similarity — standard bits frequently cannot meet special field conditions, boosting costs unnecessarily high.

NOW, Crum-Brainard *individualized* bit service enables you to efficiently meet *any* field problem with a bit that exactly fits your requirements! Besides the 7 basic types shown here for the general formations listed, Crum-Brainard will change the shape or number of teeth, or redesign angle and pitch of cutters to conform to your specifications.*

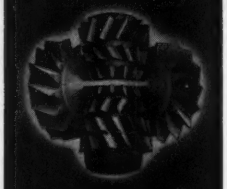
Send us a description of the formations in your field and your suggestions as to rock bit characteristics needed to drill them efficiently. Our engineers will be glad to incorporate these suggestions in perfecting a bit for *your specific needs*, or in recommending one or more standard Crum-Brainard types for your conditions.

*In numerous competitive runs all over the world, Crum-Brainard Bits, properly selected for local conditions, have out-performed all other types!

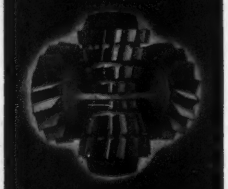
Type "OSS" for soft, sticky formations



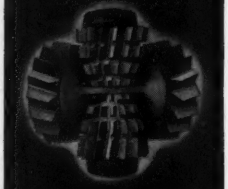
Type "OS" for shale and medium sand rock



Type "OW" for medium hard shale



Type "O" for ordinary surface formations



Type "CO" for abrasive limes and shales

Type "C" for hard and abrasive formations

Type "CF" for extremely hard formations

Crum CB Brainard

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and Petroleum Industry

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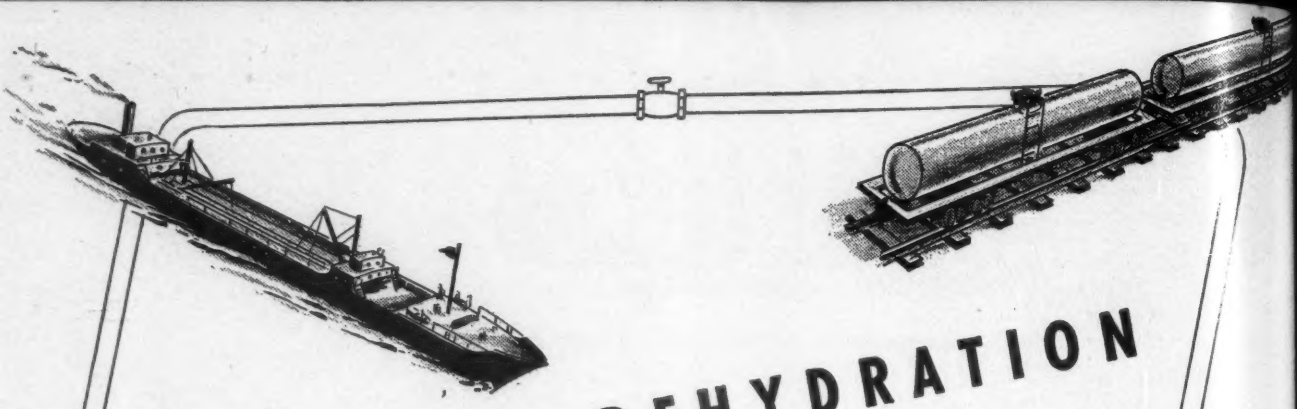
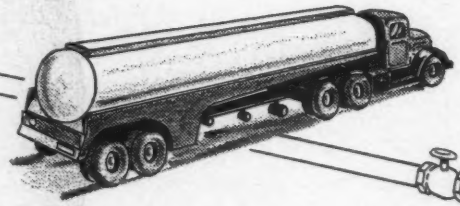
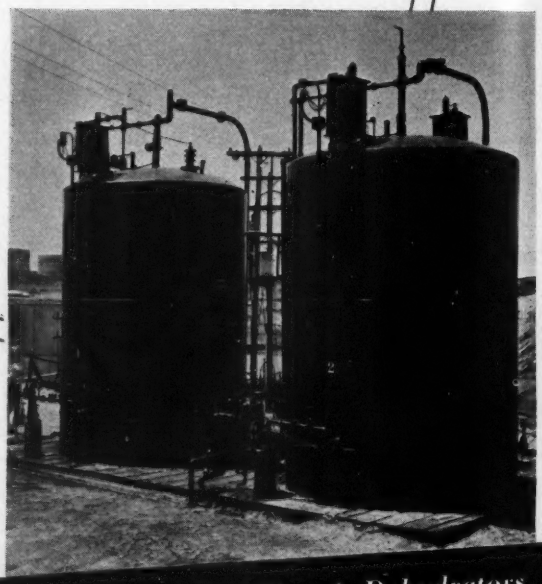


EFFECTIVE DEHYDRATION is ESSENTIAL to EFFICIENT TRANSPORTATION





The many Petreco Electric Dehydrators in daily use are tangible proof of Petreco's effectiveness.

Efficient transportation cannot tolerate other than the lowest possible shipping cuts. Unnecessarily high percentages of B. S. and W. in shipment obviously displace an equal percentage of vital petroleum . . . but lost shipping capacity is not the only phase of transportation that is affected. Even small percentages of emulsion increase the viscosity of oil in shipment, requiring more pumping power, increasing line pressures, and putting unnecessary strains on pipe line facilities. Corrosion from moisture in wet oil shipments is destructive to the pipe line, tank car or tanker. When large percentages of B. S. and W. are shipped, tank bottoms accumulate at terminals, eventually resulting in reduced capacities, contamination, and tank cleaning expense.

Now, with our shipping facilities straining to meet the ever increasing demands, all transportation activities must be carried on at top efficiency. Petreco engineers have made a study of the relationship between effective dehydration and efficient transportation, and they are always ready to assist oil operators in any dehydration problem.

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PETRECO

DEHYDRATING **DESALTIN**

Factors Determining Optimum Pump Type

and Material for Economical Production

By W. H. Jackson
Axelson Manufacturing Co.

A subject that could be as shallow or as deep as the wells in which the pump is to be installed; unlimitedly controversial, and right well it might be, for these friendly discussions sometimes lead to a new trend of thought revealing substantial values.

But, try as we will, we have not yet found a way to overcome the limitations of space in which we are called upon to place such a finely made piece of machinery as an oil well pump, precision to a higher degree than is demanded in any other machine for similar use where pressures are a prime factor, even where diametrical dimensions are unrestricted, the oil well pump being greatly restricted in everything but length.

One thing is just as definite now as in the beginning of the industry: four units comprise the pump of today as in its first development, these being the barrel, plunger, standing and travelling valves; and regardless of their position in the assembly these items have the same basic principle as in the earlier days.

There is a great difference in their design, the materials used and in workmanship as we see them today, with special alloy steels and irons, heat treatment and the ultimate in precision threading, grinding and finish.

Preparatory work leading to the installation of a pump requires that several things must be definitely known and comprise, although possibly not in the order indicated here, depth, size of casing, size of tubing, amount of oil, percentage of water (if any), volume of gas, sand (if any), type of pumping unit and its capabilities, to say nothing of the cash outlay at the disposal of the operator after he may have wrecked the bank account on a fishing job not originally contemplated.

The deeper the well, the smaller the area in which to install tubing and pump, bringing into play the utmost in super alloyed steels and workmanship to withstand the extremely high pressures certain to be encountered.

Various oil producing localities present vastly different problems, and of necessity make it imperative that the pump manufacturer meet these conditions with a wide selection of parts made of materials sufficiently adaptable to combat the undesirable elements encountered.

The primary object of a pump is to lift "oil" from the well to the tanks on the surface, and if such could be done with one hundred percent clean oil, a much greater standardization of parts and materials could be accomplished than now exists in this field, and would result in decreased cost to the purchaser; but more often than not, other lifting problems enter the picture with very disastrous results.

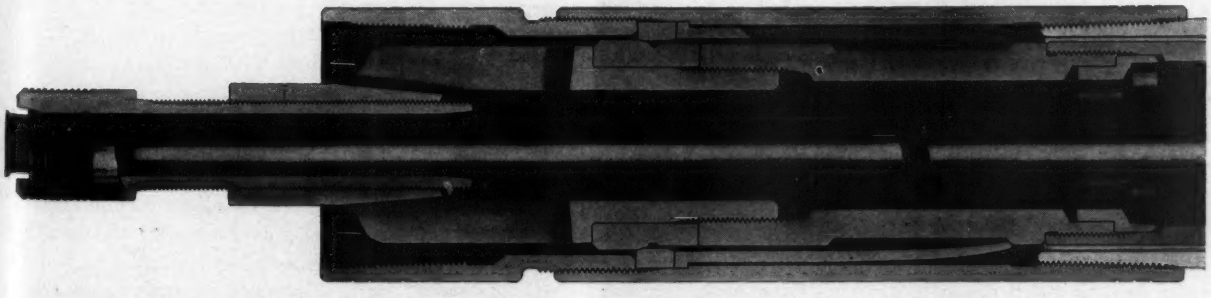
With most oil, there appears some water, and as this mixture must often pass through some slightly restricted area, and along with the presence of any considerable amount of gas pressure, there is a tendency to create an emulsion inside the pump sufficient to reduce the lubricating qualities of the fluid, thereby causing a premature wear on both barrel and plunger.

Therefore, it would appear that the most desired condition in the well would be to provide a free-flowing fluid to the pump, either directly or through an oil and gas separator (quite often erroneously called a "gas anchor") if the quantity of gas would make the installation of a separator desirable.

The pump may be classified in two ways: tubing pumps and rod pumps, so designated because of the manner in which they are installed and removed from the well, the first being attached to or near the lower end of the tubing, with the plunger attached to and lowered by the rods into working position in the barrel; the latter type being installed and removed in its entirety by the rods inside the tubing, and locked in place by an anchor shoe.

Further dividing the pumps in their respective classes into tubing or rod sectional liner, tubing or rod cold drawn, tubing or rod cup pumps, and so on as far as such design and designation may be desired; with a further classification of the rod pump into either a Rod Stationary Bottom Lock, Rod Travelling Barrel or a Rod Stationary

Presented before San Joaquin Valley Chapter of A.P.I. at Taft, May 19, 1942.



Top lock holddown on RSL Stationary Pump.

Top Lock pump, each pump having its place in the oil field with the probability of the Rod Travelling Barrel type or upside-down pump, as it is sometimes called, having the least value per dollar spent than any of the others, as will be detailed later.

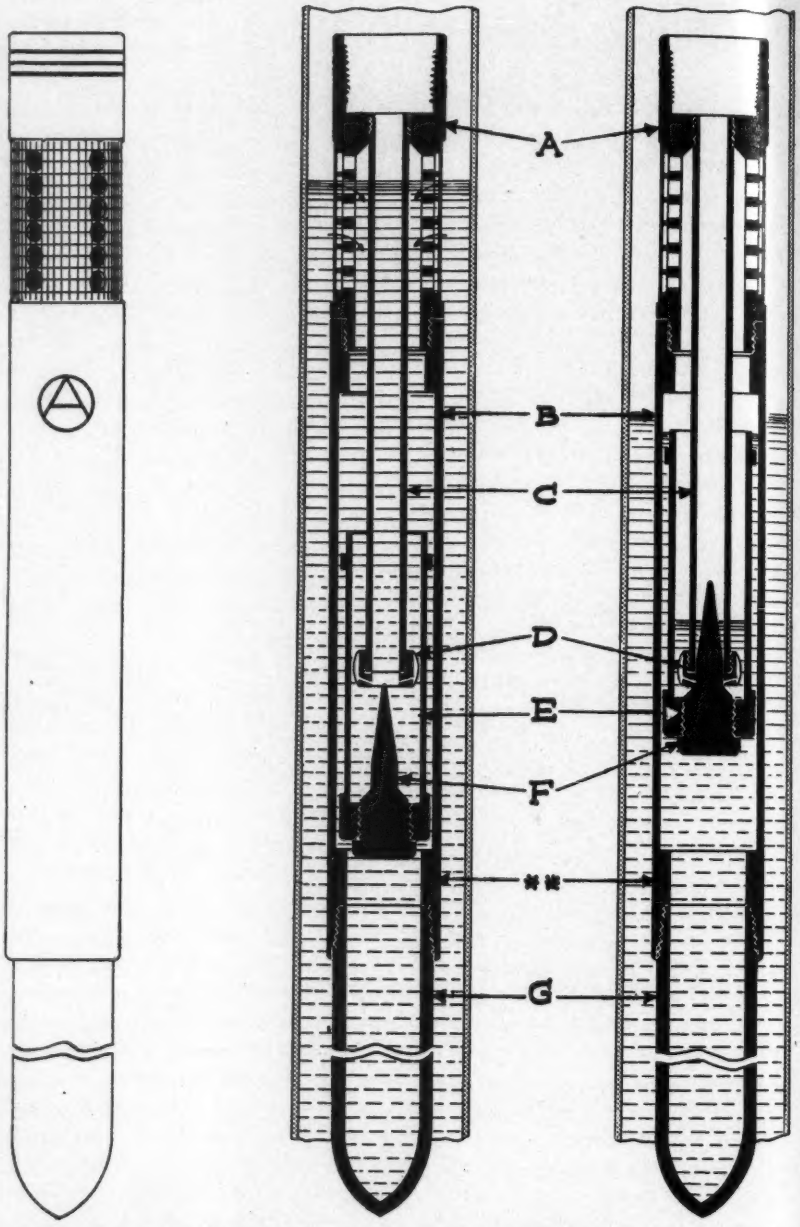
The cup pump will not be considered because it has gone so far out of the pumping picture that it can hardly be compared now with an all-metal pump, even though a few are still being used, along with some cup attachments.

The Tubing Pump, the oldest of the various types, has the greatest volumetric capacity and the largest valve openings, so when considering the size of tubing used in connection with it, it need only be remembered that the full bore of the barrel is one-quarter of an inch smaller than the tubing internal diameter.

An installation of this type makes it necessary to pull both rod and tubing string to service the pump, a feature acceptable only in the shallower wells where the time element of this operation can hardly be called a factor, the extra large size where needed compensating for any loss of down time.

In describing this pump further, it will be mentioned only as a TSL (Tubing Sectional Liner) Pump, due to the preponderance of its use over the cold drawn single piece barrel, and because of its interchangeable features, the ease by which it can be repaired without returning it to the factory, and the precision obtained in creating a straight and true cylinder made up in twelve inch sections placed end to end in an outer jacket, a precision impossible in the tube type pump.

The easier pumping conditions will find a regular or plain plunger and a regular cast iron liner sufficiently good to warrant their use with the necessity of utilizing hard alloyed iron liners or hard steel liners with the chromium plated or hard steel plunger, according to the amount and kind of material other than oil it becomes necessary to lift.



Float control oil and gas separator. (A) Screen collar. (B) Outer tube. ** Bottom collar. (C) Mosquito bill tube. (D) Mosquito bill guide. (E) Float tube. (F) Float plug. (G) Bull plug.

When sand and heavier oils are mixed together, there is no difficult problem presented as would be the case when sand, water and oil filter through together, the heavier oils carrying the sand upward without any appreciable falling back of the sand, in contrast to the exact opposite with large amounts of water in the well, which is not viscous enough to keep the sand in suspension, permitting it to fall back into the pump and forming a perfect grinding compound to work on both the barrel and plunger, resulting in excess fluid slippage through wear.

This condition requires the use of the harder or alloy metals, and if the water comes under the heading of a minor chemical, due to iodine, salt, sulphur or other minerals creating a corrosive action on the metals,

it would probably be advisable to use chromium plated or even all stainless metals to combat such a condition.

The hard surface of the chromium plated plunger, in most cases, presents a very good surface to use in combination with any type of metal making up the barrel, if temperature and tolerance of plunger fits are carefully analyzed, and lack of consideration of these two things will probably cause as many pump failures as all other causes combined.

One particular type of plunger that has had such universal success in handling heavy oil and sand is the Barnwell Plunger (so named after its inventor) which has a sharply bevelled or scraper edge at the upper end so as to remove as much sand and heavier oil from the wall of the barrel as possible, to enable it to travel freely with less friction from sand and viscous fluid.

This plunger has been further developed so that it now has a scraper edge at both ends, being called the Double End Barnwell Plunger; still further increasing its efficiency in permitting a maximum plunger travel on each stroke and providing a protection for the barrel on the down-stroke as well as on the up-stroke.

Fittings have been designed and made—such as two wing, two prong cages with extra large openings—to assure free passage of the heavy sand and shale mixed fluids and to free the valve ball to seat at the proper time, thereby reducing the liability of fluid rushing backward under pressure enough to cause a fluid cut seat.

Other fittings are available to help break up the shale bodies so that no large concentration can be made while passing through the pump, causing a stoppage of the fluid into the tubing with a consequent pulling job for repairs.

Time will not permit of complete descriptions here, but suffice it to say that in nearly every case, features used in the TSL pump can in some way be incorporated in all rod pumps.

The rod pump is particularly adaptable to the deeper wells because of the restricted areas for the tubing, and because the entire pump may be installed and removed for repair without moving the tubing, it being necessary only to provide for that operation when running tubing for the first time by installing a seating shoe on the lower end of the tubing, to receive the pump when lowered on the rods, and enable it to remain in place by means of a spring arrangement engaging in the shoe.

Now to return to a statement that I made earlier in this paper, that the travelling type pump offered less value per dollar spent than any other type, even though still made and used:——

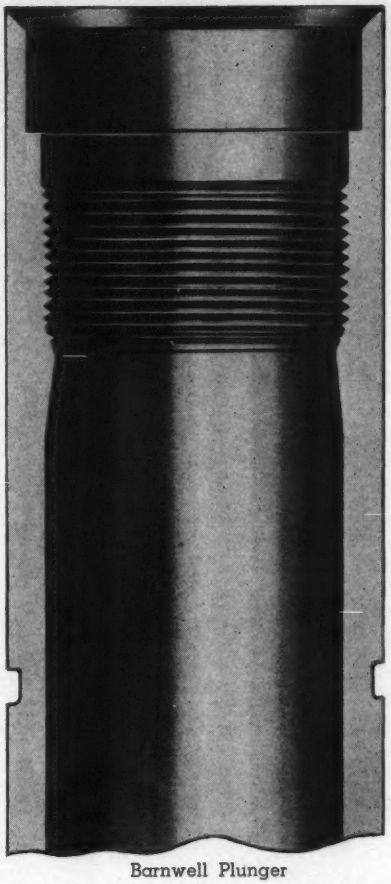
First, there is too much moving material, with more friction on the tubing and barrel of the pump than needed, this pump having its plunger stationary and the barrel travelling over the plunger.

Second, the passage to the pump is much too restricted, with the long tube below the shoe, forming a portion of the gas and oil separator, the pull tube of the pump connecting the plunger with the anchor body in the shoe, then the small inside diameter of the plunger itself, all in all, sometimes being as much as thirty-five to forty feet in length, depending upon the length of the pump and separator.

Third, the intake valves at the top of the plunger having a further restriction through the seat, making it necessary for this pump to be in a much better condition at all times to create enough vacuum or suction inside the barrel to draw in a full charge of fluid, lack of which would cause premature fluid pound in case of a low fluid level in the well.

Fourth, the intake valves are often completely above the fluid level, creating a condition exactly opposite to the principle of fluid lift, and being smaller than the exhaust or travelling valve, again the opposite of desirability.

Fifth, and I believe the greatest error resulting from this design,

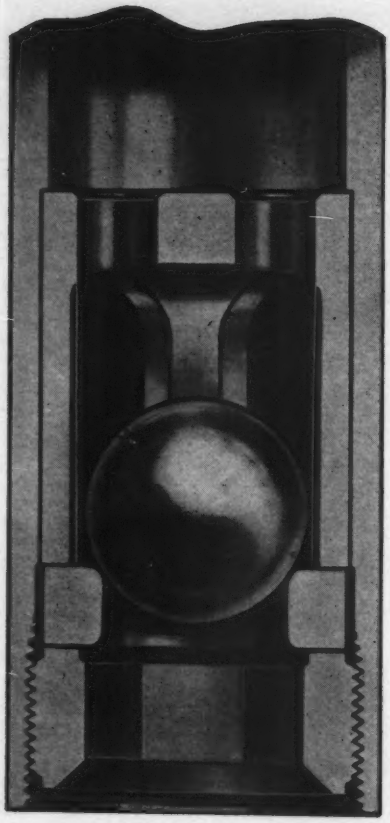


Barnwell Plunger

is the fact that all fluid passing through the pump must leave the travelling valve at the extreme top of the pump, creating a dead space as far as lubrication is concerned, from possibly a very short distance below this outlet down the entire outside length of the pump to the shoe, which soon fills with water (a poor lubricant) with an equal pressure up underneath the barrel until it is in contact with the plunger, with a constant exerting force to pass between the barrel wall and plunger so as to find its way back into the plunger and down into the well, forestalled only by a perfect seat and ball in the standing valve.

This condition causes a much too severe frictional action on the close fitting plunger and barrel, with resultant shorter pump life.

Sixth, there is a perfect pocket at the shoe in the tubing for sediment to settle, sometimes building up sufficiently to prevent pulling the pump.



Perry Plunger

In contrast to some of these conditions, the stationary pump has enough improved features to, and is, very rapidly supplanting the travelling pump to a marked degree. The stationary bottom lock pump is in the exact reverse to the travelling type, having the larger valve, properly, the intake, and the smaller one as the exhaust, also eliminating the long pull tube, as well as the plunger internal restriction; since once the fluid is drawn into the barrel, it is not found difficult to lift it on up the tubing.

In this pump, whatever mixture of fluid enters, passes on through with each stroke, there being no pockets for either water or any great amount of sand to collect, providing a much better lubrication at all times for longer and more economical pump life.

But, this pump also leaves an annular space between it and the tubing for sediment to settle in, often making a stripping job necessary; about the only undesirable feature.

The latest and probably the most efficient rod pump is the Top Lock, so called because of its design, to suspend from the extreme top end of the pump in a self-locking shoe, with a spring anchoring feature similar to the other pumps, but with the seat and spring lock large enough for the entire pump to pass through, except the top lock seat on the pump; which, when seated in the shoe, leaves none of the pump up in the tubing to "sand in" except when a well might suddenly (but seldom) produce an abnormal amount, to build up in the tubing.

The top guide of the pump rod is so constructed as to permit of a wash action every stroke, totally eliminating any pocket for water or sand; everything coming into the pump being moved upward in a continual clearing action.

A feature of this type of pump is that all valves are below the perforations in the oil and gas separator and consequently are always below the fluid level of the well, and can be provided with a small perforated connection on the lower end of the pump to prevent rope or rubber from entering the pump and causing damage.

Another feature of the stationary pump, both top and bottom lock, is the Perry Plunger, which is so designed as to have the travelling valve inside the plunger at the bottom, and with an adjustable rod guide at the top of the pump to permit vertical adjustment of the plunger and eliminate the space between the standing and travelling valves on the down-stroke of the plunger.

The use of this plunger can control the compressing chamber between the valves, to as little as only one-seventh of the space always found in the use of the ordinary plunger and valve cages; and when any appreciable amount of gas is prevalent, this becomes a worth while factor to consider in eliminating a gas locked pump.

This plunger, as well as all others, can be provided in various lengths, forty-eight and sixty inch being the popular lengths. It can also be provided with a series of grooves around the plunger, which will set up a turbulence of the fluid slippage when it becomes necessary to use a looser fit plunger due to excessive temperature or a desire for an extra fast motion.

Slower motion wells would be fitted with a much tighter fit than others because of the lesser friction set up by the slower speed of the plunger.

To say off-hand that two kinds of metals make the best combination to run together in a particular well would be like saying that two wells would produce exactly alike before they are drilled; and one, without previous knowledge of conditions, making such a diagnosis, will find out more often than not that some adjustments are necessary. It is only by storing up this fountain of experience for ready reference and utilizing it to the best advantage that the number of successful installations will offset the failures.

During the past, it has been possible to secure any commodity desired at an instant's notice; but today, with Governmental regulation reaching farther and farther into our daily activities, the supply of metals so essential to our oil field needs is being diverted to the prosecution of the war. It will very soon be necessary for us to make the best of what we have or can get, forgetting entirely those metals so much desired, such as nickel, chrome, vanadium, molybdenum, brass, copper and tin, to say nothing of the nonmetallic materials that we have come to take for granted.

We know that our first consideration now is the winning of the war, and nothing would please Hitler, Hirohito and Mussolini, Incorporated, more than to find us divided in our efforts to carry on in the face of the inevitable substitutions that are now on their way to everyone alike.

We must accept the situation before us without complaint; we must use that which is available even though not quite what we are used to, and above all, you men can go a long way toward alleviating a situation that is costly to the manu-

facturer as well as yourselves by bending every effort possible to get the utmost out of the material that your source of supply finds so difficult with which to supply you.

C.N.G.A. to Consider Plant and Sabotage Problems

Keyed to modern natural gasoline plant design and methods of reducing danger of sabotage through plant layout, the July meeting of the California Natural Gasoline Association will be held Thursday evening, July 2, at the Rio Hondo Golf Club, Downey, Calif. This is the joint announcement of W. W. Robinson, Jr., C.N.G.A. president and Randal Maass, program chairman.

"Natural Gasoline Plant Layout" is the subject of the first of two papers to be presented at the meeting. It is co-authored by D. E. McFaddin, assistant process engineer, Union Oil Co. of Calif. and T. R. Beauchamp, field superintendent, The Texas Co. and will relate how modern plant layout differs from that of ten years ago, control centralization, placement of lines above ground and the necessary precautions as well as methods of laying out plants so that the dangers of sabotage is minimized.

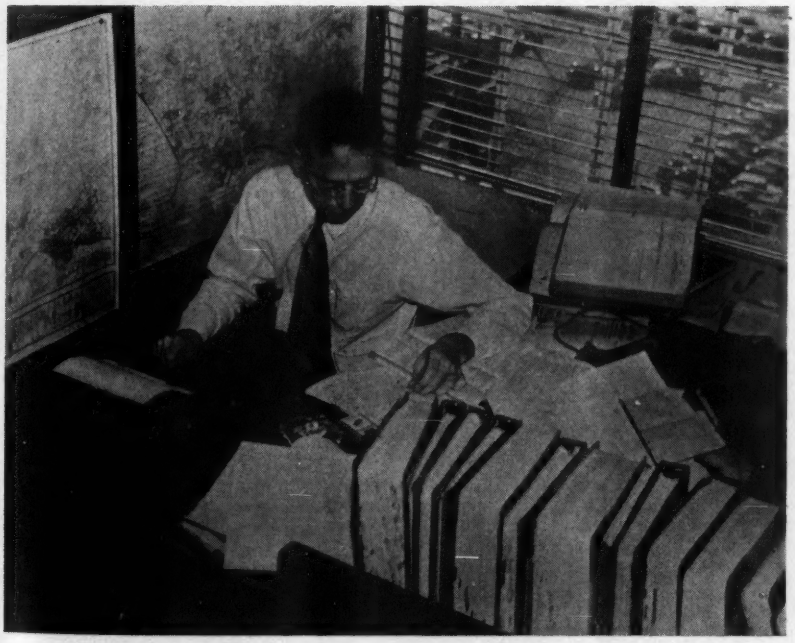
Curtis Cortelyou, measurement engineer, General Petroleum Co. of Calif. will present a paper sponsored by the Southern California Meter Association titled "Measurement and Regulation in the Natural Gasoline Plant." Speaking for that association, Cortelyou will go through a typical natural gasoline plant and discuss the various metering and regulation problems encountered, offering insofar as possible, the SCMA recommendations for coping with problems such as pulsation, condensate, temperature control, etc.

As is customary a dinner at 6 P.M. will precede the program which will start at 7:30 P.M.

Deputy Davies Urges Grain Synthetic Rubber

Appearing before a Senate Agricultural subcommittee, OPC Deputy Coordinator Davies and Refining Director Gary declared that if synthetic rubber can be produced more cheaply and more readily from agricultural products than from petroleum the government should encourage such a program. The OPC officials stated that the oil industry is not anxious to get into the rubber producing field and is doing so mainly for patriotic reasons.

R. N. Richey Enters Army Service



Bob Richey working up the Oil World News Service.

R. N. (Bob) Richey, manager of the California Oil World News Service since 1937, has been called to active duty as a lieutenant in the Coast Artillery. Lt. Richey has been an active reserve officer since earning his commission while attending the University of California at Los Angeles. Presently attached to headquarters staff at Fort MacArthur, Lt. Richey is serving as Assistant Public Relations Officer for the post.

Well known among California oil men through his extensive activity in the publication field, Lt. Richey also was employed in the Scouting Department of Shell Oil Co., Inc. for several years. Following severance of this connection, Lt. Richey was active in Basin fields as a technical advisor to independent operators, after which he re-entered the employ of Shell where he worked on oil purchases. Joining the Staff of California Oil World in 1937, he compiled and edited the News Service, gaining a reputation for accuracy and dependability among California operators.

Lt. Richey enters service with the best wishes of the California Oil World staff, and with our hopes for a speedy return to his normal duties. During his absence V. W. (Vic) Heinzerling, who has been working in this department since 1939, will carry on the work. Mr. Heinzerling was formerly employed by the General Petroleum Corporation and will maintain the policies and practices which have long been familiar to all California Operators.

U. S. Salvage Director Outlines

Task for California Oil Men

The California Oil Industry Salvage Committee received its "Scrap" assignment, May 27, at a meeting in Los Angeles.

The following members of the committee were present:

Lloyd M. Williamson, president, California Star Oil Co.; L. L. Aubert, president, Bankline Oil Co.; Rush M. Blodget, ex. vice pres., Oil Producers Agency; Floyd Bryant, asst. to president Standard Oil Co. of California; R. M. Burk, National Supply Co., and W. C. Dayhuff, president California Natural Gasoline Assn.

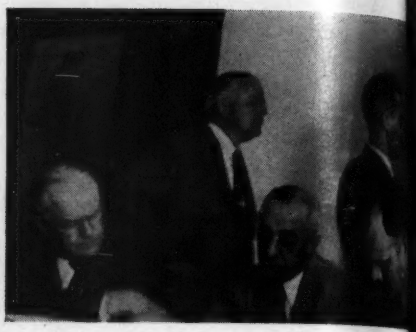
B. E. DeVere, president, Pathfinder Oil Co.; L. M. Dreves, Industrial Salvage Section, W.P.B.; H. C. Farquhar, manager of purchases, Union Oil Co.; R. E. Fenton, ex. vice president, California Stripper Well Assn.; Stark Fox, Oil Producers Agency, and J. Grover Kelley, president, Hillman-Kelley Supply Co.

D. S. Kilgour, California Oil & Gas Assn.; Ralph B. Lloyd, president, Lloyd Corp.; Martin Meers, Tide Water Associated Oil Co.; Wm. H. Morgan, R. R. Bush Oil Co.; D. B. O'Neill, general manager, Independent Refiners Assn., and H. F. Owens, president, Berry Oil Co.

George Shellenberger, asst. to pres., Merchants and Manufacturers Assn.; George Suman, vice president, Tide Water Associated Oil Co.; George Trembly, vice president, Howard Supply Co., and W. C. Whaley, vice president, Barnsdall Oil Co.

Paul Shoup

Members of the committee who were unable to attend: Paul Shoup, president, Merchants and Manufacturers Assn.; Dana Hogan, president, San Joaquin Valley Oil Producers Assn.; L. A. Cranson, vice president, Honolulu Oil Corp.; C. A. Johnson, president, Holly Oil Corp.; E. E. Pyle, chairman of the Production Committee, 5th District, and J. A. Smith, president, Independent Producers & Consumers Assn.



The heavy crude committee officers in action.

In the absence of Paul Shoup, chairman of the Committee, Lloyd M. Williamson, vice chairman, presided and opened the meeting. He introduced Mr. Singleton.

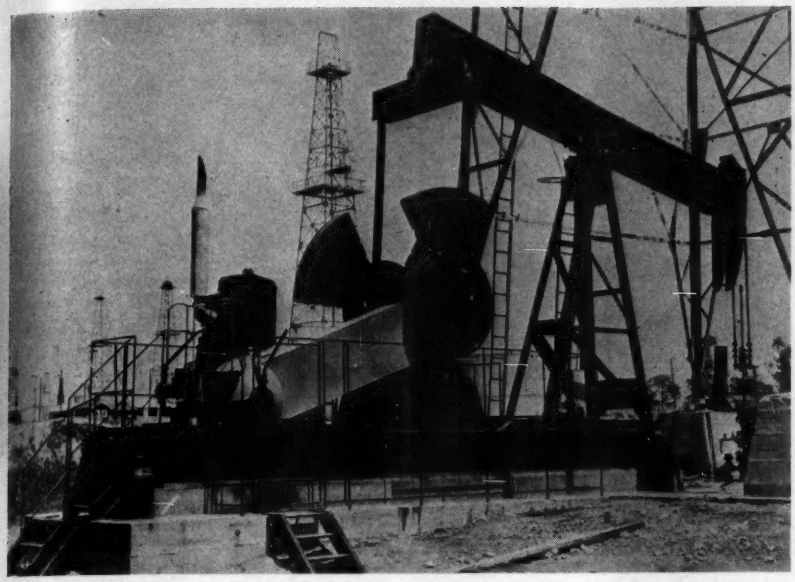
Mr. Singleton, Salvage Director for the Petroleum Industry in the War Production Board, addressed the meeting on the subject of the critical scrap situation and the important contribution that can be made to the war effort through the cooperation of the entire oil industry in the State of California. Mr. Singleton's remarks follow:

The War Production Board has delegated to the Bureau of Industrial Conservation the responsibility of developing salvage programs for waste materials — iron and steel scrap, non-ferrous metals, cotton and woolen rags, paper, rubber and burlap—wherever they can be found throughout the land.

In the Bureau of Industrial Conservation of the War Production Board there are several sections.

1. The General Salvage Section, which has to do with the scrap collection from farms and from the at-

Here is a sight to gladden the scrap hunter's eye.



These pumpers are preparing more Coral Sea and Midway grief for Nippon.

tics, basements, garages, etc. of private homes in the cities, towns and villages.

2. The Special Projects Section, which has to do with getting salvage or scrap under circumstances in which there are involved questions of law, ownership, title, etc.

3. Automobile graveyards, which is self-explanatory.

4. The Industrial Salvage Section.

This fourth section concerns itself only with salvage and scrap from industry, as the name would imply. This section operates horizontally through what are termed industrial centers getting into channels of trade all sorts of scrap from industries in the more densely populated centers and vertically in certain industries.

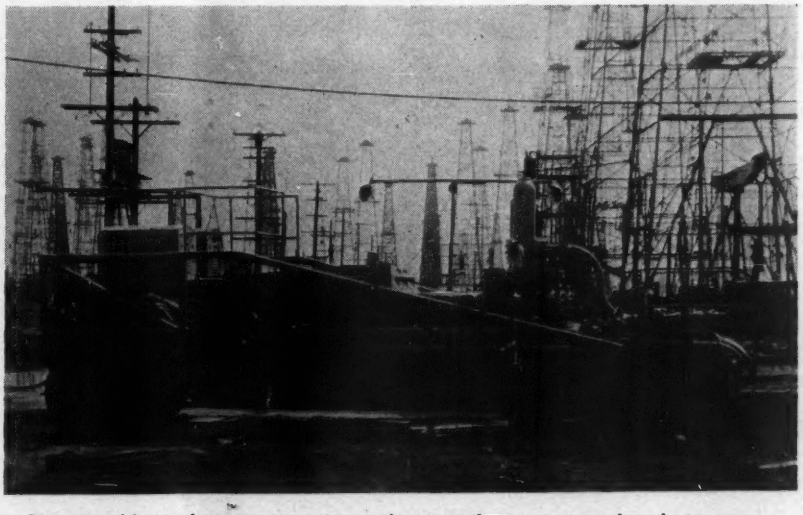
Under the vertical plane come public utilities, railroads, textiles, mining and the petroleum industry. These vertical operations under Directors with headquarters in Washington, D. C. include the activities of each of the industries mentioned throughout the entire continental limits of the United States. Naturally, there is bound to be some duplication of effort, over-lapping of activities, but all-in-all, it seems that it would be far better to have too much than too little.

The Public has been informed on this program by the War Production Board through literature that has been mailed, releases given to newspapers, national magazines, trade journals, etc. This has been followed by a very active organizational and speaking campaign. It has resulted in splendid cooperation on the part of the people generally, particularly the businessman who realizes the dangers of the situation.

It is not necessary to deal with statistics at this time, because regardless of how much scrap has been collected, the fact remains that we too often have steel mills shut down for lack of metal scrap. In the prosecution of war successfully, there are three needs that must be met—food, oil and steel. With all of them a war can be won, providing the people have the will to fight and win. For the lack of any one of these three, a war may be lost, even though the will to fight remains. There will be no real shortage of food, nor will there be an actual shortage of oil. Lack of transportation facilities may cause rationing, but I repeat, there is no shortage of oil. The great and pressing need today is steel, and a continuing shortage of scrap material to make the steel has assumed dangerous proportions.

In ordinary times, scrap metal accounts for anywhere from 25% to 50% of our steel production. For example, it took 26,000,000 to 27,000,000 tons of iron and steel scrap to produce the steel tonnage turned out in 1941. Now, to produce the 100,000,000 tons needed for this year, there must be made available approximately 35,000,000 tons of scrap metal. In the operation of a steel mill, the character of the steel produced dictates the amount of scrap necessary to make that particular quality of product. It runs from the figures that I just gave you up to 100% scrap charge in certain alloys.

The scrap situation in California is this: Today the mills and foundries have 125,000 to 150,000 tons



This portable mud pump setup is another contribution to speed and economy.

of scrap on hand. The dealers have between 15,000 and 20,000 tons in their yards. Your consumption is 101,000 tons per month just for the mills now in operation. More than this will be necessary when additional facilities are built. A slide rule is not necessary to know the answer.

Let me call your attention to the fact that it takes 2,000 tons of ship plate and 300 tons of structural steel to make a 10,500 ton merchant ship. Of course you know that the ship yards on the West Coast have a tremendously large program in building this type of cargo vessel. Further than that, every steel mill is engaged in 100% war work.

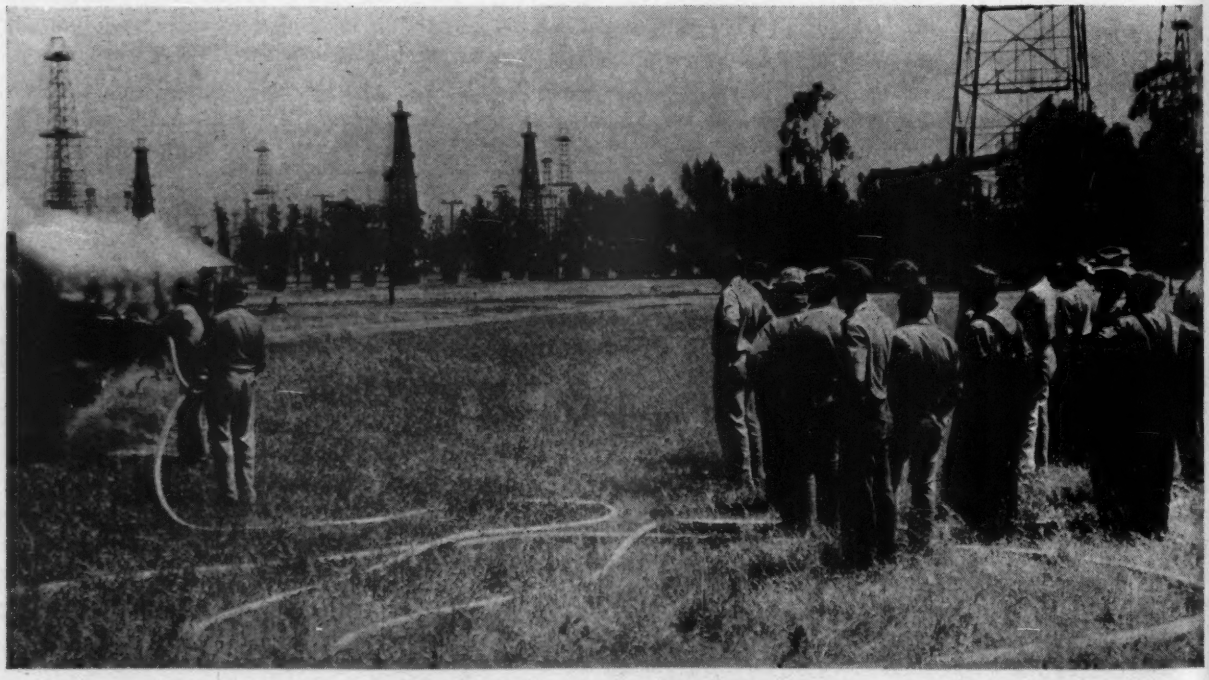
We must make up an estimated shortage during the balance of 1942 of between five and six million tons of metal scrap. Today there are nine open hearth furnaces closed down for lack of scrap metal.

The oil industry has been called upon many times to shoulder terrific burdens and to operate under great hazard in their divisions of production, transportation, refining and marketing. These situations the industry has always met. When called on to produce 1300% more gasoline with only 100% increase in the production of crude oil, they met that challenge successfully. When called upon to produce 100 octane gasoline for our air forces, our industry was ready. And when called upon to produce special lubricants for the air forces, they began immediately to deliver the grades and quantities asked for. But the oil industry was never faced with a greater challenge than it is today. The industry is asked closely to survey every physical unit and to survey oil fields, pipe lines and refineries, proceed with the collection of scrap and with a program for demolition of all idle or obsolete units that can be reasonably dismantled and to salvage for re-use any items that can be used again and to send the scrap material to the mills through the regular channels of trade. To keep up the program of production in planes, tanks, ships and guns, the oil industry is faced with a challenge to do its part to close up the gap between supply and demand of scrap, insofar as it lies within its power to do so.

In your oil fields there are old drilling rigs, steam pumps, boilers and miscellaneous scrap of all kinds. In your refineries there are obsolete units, dormant and obsolete inventories that are potential sources of the quantities of scrap materials so greatly needed today—old manifolds, oil pumps, obsolete skimming and cracking units, old tanks. Every operator, every refiner and every marketer can deliver far more scrap than he believes he can if he will only make a very close searching survey of what scrap he has and what he has available.

Your presence here gives the Industrial Salvage Section assurance of the cooperation of important oil men and of other important oil men to work with you. Here you represent every element in the oil industry in California. You are asked to do the job. The responsibility is yours. We in the Industrial Salvage Section stand ready to do whatever you ask us to do to help you in doing this job. You have an opportunity to serve just as important as the man who carries a gun, because if you and men like you fail, the soldier may have no gun to carry.

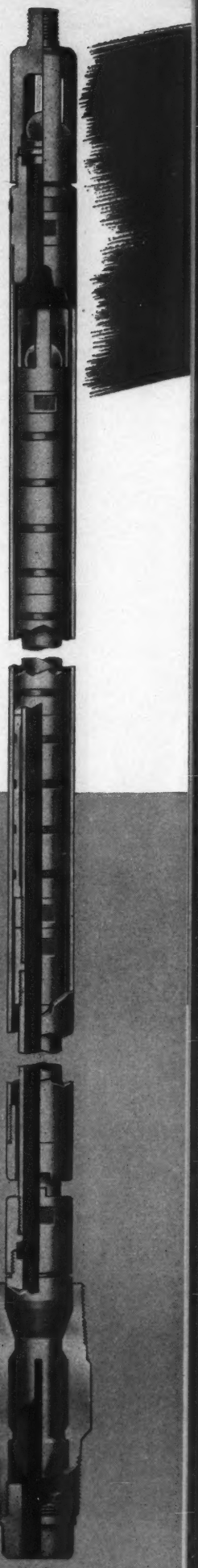
This committee knows the state oil situation and we can only offer suggestions, which are:



Training in fire fighting may save valuable materials.

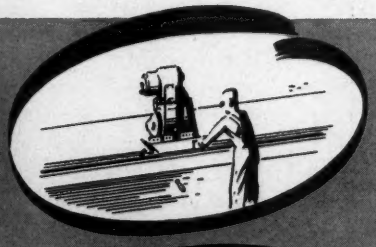
FIRST COST IS IMPORTANT

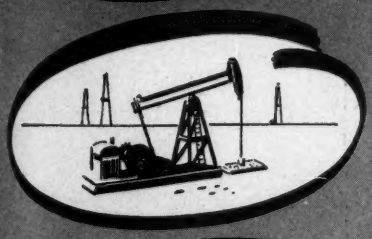
FIRST!

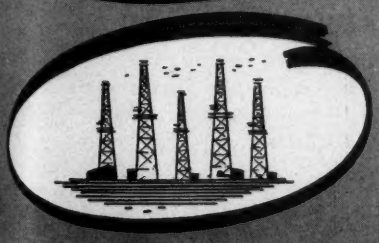


Although low price alone is no measure of economy, there are wells where *first cost* is important in the purchase of pumping equipment. So it's well to remember that precision-built, modern, dependable pumps ARE available . . . *at an economical price* . . . in Flupaco "Groove Seals"!

Take this Flupaco Volume Producer "Groove Seal," for example. Right off you can see that it *looks* like a quality pump.—And it IS! It has the identical performance features that have made all Flupaco Pumps world famous for efficient production, reduced maintenance, lower cost. And yet . . . it's just one of the complete "Groove Seal" line available in many sizes and types—*for less.*







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Here are a few of the Volume Producer's outstanding advantages:

In construction—it is rugged, trouble-free, durable . . . and the same precision methods of heat-treating, honing, straightening and gauging are used that Fluid Packed perfected for the one-piece "Improved Insert" barrel after *two years* of development work.

In operation—it's fast to install, easy to pull and pumps efficiently in both medium and large volume wells at all depths.

In types—it's available for either top or bottom anchoring in both traveling barrel and stationary barrel types . . . has sleeves of either "Service" or "Supreme" alloy steel . . . comes in 9, 12, and 16-foot lengths and *three* diameters . . . with either single or double valves.

For other features about this lower-priced *quality* Volume Producer pump—or about any others in the Flupaco "Groove Seal" line—get in touch with the Fluid Packed representative in your district. He'll be glad to help you work out a way to cut your pumping costs with "Groove Seals"!

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Mid-Continent and Texas Distribution

MID-CONTINENT: HUNT BLDG., TULSA, OKLA.; 2 S.E. 29th ST., OKLAHOMA CITY, OKLA.
GULF COAST HEADQUARTERS: 2301 CONGRESS AVENUE, HOUSTON, TEXAS

"WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF OIL WELL PUMPS"

1. That in each district a plan to insure that all waste materials, particularly metals and rubber, are removed from all locations concentrating on a definite program for each district and setting a time limit for completion of these efforts.

2. Encourage the review of all idle facilities, including refineries and natural gasoline plants, that are no longer in service, abandoned pipe lines and production equipment both for drilling and handling of oil, making preparations and carrying out dismantling wherever possible.

(a) To facilitate economic action in any dismantlement, you are requested to give all assistance possible, securing information on what secondhand equipment and material the owner will not require after the completion of this program and see if use can be found for this equipment in other oil companies at prices better than they can receive from dealers.

3. Arrange for meetings in every district in the State of California, one for each month for the next four months, until the close of the program and the anticipated results will be better known.

4. Personally arrange for the contact for each salvage man in each company by members of your committee.

5. Explain thoroughly to the entire petroleum industry how scrap should be moved to dealers and their part in the general program. Supply a partial list of the scrap firms that are operating in the districts concerned.

6. Explain the method of reporting the movements of scrap and how this information is necessary and available to the Industrial Salvage Section.

7. Solicit further suggestions and improvements from your fellow workers in the petroleum industry to keep this program moving.

As you know, the petroleum industry is interested not only in furthering the war effort by the conversion of useless material to scrap, but also to enable each company to secure a supply of the very necessary secondhand materials that are required for continuation of their operations.

Remember that no scrap steel has been shipped away from the Coast since the embargo in 1940. It is a necessity that we have a backlog before further withdrawals will occur due to the increase in the number of furnaces.

You have the months of June, July, August and September to get this work done. Then we may expect weather conditions that might retard the work to some degree. During this period, it seems to me that it is an absolute necessity that a stock pile of scrap metals be built up on this Coast. You will have increased production at your present steel plants, and you will have new steel plants in operation before the first of the year.

The oil men of this country have always proven their great loyalty and courage and resourcefulness, and in the scrap situation you are again called upon to lead the way. The attitude of the oil industry executives with whom I have discussed this matter has given me a very deep feeling of thankfulness that people like that are the leaders in our industry. The attitude of the smaller operators is even more

Attractive young women have made their appearance as service station attendants at a number of stations of Tide Water Associated Oil Company in Los Angeles and San Francisco—and there will be more. ENID PRATT shows a customer how efficiently she can check tire pressure while ALICE La CAVA does a spotless job of polishing the windshield.

heartening for they have not the great organization that the larger companies have to work with. In other areas the small operators, as a whole, gave their own personal, active efforts to cleaning up their leases, to dismantling their obsolete units, including skimming plants.

. The vital factor in this situation is speed. What you are asked to do is to assume the assignment, the responsibility, and have the oil industry lead the way for all industries in California.

Sonj Announces Plan for Increased Synthetic Rubber Output

Mr. W. S. Farish, president of the Standard Oil Co. (N.J.), recently made the following announcement:

"A new procedure whereby synthetic rubber raw materials and an improved quality of 100-octane aviation gasoline can be produced simultaneously has been worked out by the Standard Oil Development Company, our technical organization. All details, based on experimental plant experience, have been supplied to the Petroleum Coordinator and other government agencies. The new method will be generally available under the system of licenses now being used in the oil industry which system has the approval of the Petroleum Coordinator.

"We estimate that adoption of the new method will speed up the war program for production of synthetic rubber from plants already underway and will provide the nation with an increased potential capacity of raw material for more than 400,000 tons of Buna S rubber and 240,000 tons of Butyl rubber a year.

"Synthetic rubber raw materials can be produced in plants now under construction by refiners for the production of greatly increased quantities of 100-octane aviation gasoline. Portions of these plants, being built at a cost of $120,000,000 can, with the new procedure, perform a dual role by turning out the expected production of 100 octane gasoline and, at the same time, produce raw materials for synthetic rubber.

"We understand that the present Government program calls for production of 800,000 tons of synthetic rubber a year, 700,000 tons of which is to be Buna S rubber, 60,000 tons Butyl rubber, and 40,000 tons Neoprene. A prime bottleneck in this program has been the construction of plants to produce synthetic rubber raw materials.

"Benefits of the new procedure are three-fold:

1. We formerly believed that any large production of raw materials for synthetic rubber by oil refineries would automatically reduce the output of 100-octane gasoline, which is essential to our rapidly growing force of fighting planes. This possibility can now be averted.

2. The new process sets up a large potential supply of needed raw material for synthetic rubber. We use the term "potential" because the amount of synthetic rubber raw material actually to be drawn from these operations will depend upon how requirements for 100-octane gasoline and synthetic rubber are balanced by the war agencies. That is, the synthetic rubber raw material produced by the new procedure might also be used for increasing the quantity and further improving the quality of fighting grades of aviation gasoline.

3. The new procedure produces an improved quality of base stock for aviation gasoline, which will give our fighting planes more power in take-off and under other flying conditions requiring full engine throttle. Formerly, to have achieved this improvement in quality it would have been necessary to reduce output. The new procedure eliminates this necessity. Some refining units will use it actually to increase output of 100 octane aviation gasoline.

"The new procedure was discovered through experimental operation of a pilot plant, and in normal times we would withhold details of the discovery until the process had been proven in full-scale plant operation. However, in view of the urgent war needs of the nation, and the fact that the first full-scale plant using this procedure will not be ready for operation until next August or September, we are releasing immediately all experimental data for the use of others constructing similar plants.

"In view of the country's urgent need, our government is making an intensive effort to determine the means by which synthetic rubber can be produced fastest and with the least possible drain on critical materials for plant construction. Our foremost objective is to contribute in whatever way we can to a quick and satisfactory solution of the problem.

"Earlier this month, we gave to the Secretary of Agriculture all information in our possession which might be helpful to the production of synthetic rubber from grain alcohol, and kept Senator Guy Gillette of Iowa and the Agricultural Sub-Committee informed of our readiness to assist. We are sure that sound decisions will be reached. We must have synthetic rubber and must get it quickly, whatever the means — whether we make it from petroleum or from grain alcohol, or both. That is all that really matters."

Atlantic Seaboard Oil Shortage

More than 11,000,000 motor vehicles, 140,000 retail gasoline outlets, and upwards of 1,500,000 oil burners in homes, are affected by the shortage of petroleum transportation to the East Coast, compilations in the April issue of the American Petroleum Institute "Quarterly" reveal.

This populous industrial region, embracing 17 states and the District of Columbia, has 36 per cent of all the motor vehicles operating in the United States, and 63 per cent of all the domestic oil burners. About 34 per cent of the country's retail gasoline outlets, including 82,000 service stations and 59,000 other stores with gasoline pumps, are in the shortage area.

Oil Industry Must Reduce Use of Scarce Critical Materials

The oil industry is urged by the Office of Petroleum Coordinator for War to redouble its efforts to minimize the use of scarce materials.

Deputy Coordinator Ralph K. Davies called the industry's attention to the fact that many applications for priority ratings are now being denied, because the requests include certain critical materials for which substitutes could be found.

In every case where a substitute non-critical or less critical material can be used, the more critical material will be denied.

Applications for priority ratings will be expedited more promptly if they are made out in accordance with War Production Board rulings and if the required forms are properly filled out, he added.

A list of critical materials and the action usually taken by the War Production Board of applications for ratings on certain of these materials are included in a mimeographed statement prepared by the Division of Materials, Office of Petroleum Coordinator. The statement may be obtained by writing the Office of Petroleum Coordinator, New Interior Building, Washington, D. C.

The Director of Materials, of the Office of Petroleum Coordinator is calling to the attention of the petroleum industry the fact that the War Production Board is finding it necessary, due to the scarcity of certain materials, to take drastic action in eliminating them so far as possible when included in applications for project rating. It suggests that applications for project ratings made out in strict conformity with Form PD-200 and PD-200a, and in conformity with the rulings of the War Production Board will be expedited much more rapidly than if this is not done.

The War Production Board has declared that the following materials, most of which are used at times by the petroleum industry, are scarce materials, vitally needed for war purposes and in general are termed critical: aluminum, asbestos, cadmium, calcium-silicon, chromium, cobalt, cork, copper and copper alloys, lead, magnesium, plastics, nickel, rhodium, steel and iron of all types, and their alloys, tin, tin plate and terneplate, tungsten and tungsten carbides, vanadium, zinc and zinc coated metals, cotton duck, manila fiber and cordage, jute, burlap, Kraft paper, lead, manganese, mercury, sisal, and rubber of all types, new and reclaimed.

Engineers designing plants for which a project application will be made should take into consideration the vital and scarce nature of these materials and in every instance should eliminate their use if it is at all possible to do so, finding substitutes therefor, and where total elimination is not possible, reduce the quantity as much as possible.

The materials branches of the War Production Board are denying the use of certain classes of materials and equipment as follows:

1. Galvanized iron and steel pipe, except where the properties of the water demand zinc coating.
2. Steel water tanks (except closed pressure types).
3. Both black and galvanized corrugated iron and sheet for side walls and roofs for buildings.
4. 85% magnesia pipe covering for insulation purposes except where temperature exceeds 212°.
5. Metal base plumbing fixtures.
6. The use of cork for insulation except where extremely low temperatures are required.
7. Valves and fittings which are trimmed with chromium, stainless steel, bronze, brass, or nickel except to meet special processing requirements.
8. Steel sash, windows and frames, steel bucks, steel doors and frames, steel roof decking, metal roofing, except where extreme fire hazards exist.
9. New steel storage tanks to be used for fuel oil, crude oil, and other heavy oils whenever it is practicable to construct concrete storage tanks.
10. Cast iron soil pipe, or sewage pipe except those of standard weight and then only those portions required within a building.
11. Ferrous metal for water mains where the use of asbestos cement, concrete or wood pipe is practicable.
12. Water well screens made of brass, copper and other non-ferrous alloys. Gravel packed screens or screens of other types will serve the purpose for a reasonable length of time.
13. Steel wire fence of the chain link type.
14. Ferrous metal culverts.
15. Electric conduit (metal) where wiring can be safely installed without it.
16. Stand-by equipment. Spare parts to be held to a bare minimum.

Construction equipment of all kinds and oil well drilling equipment must not be included in a project application since such equipment does not become a permanent part of the finished project.

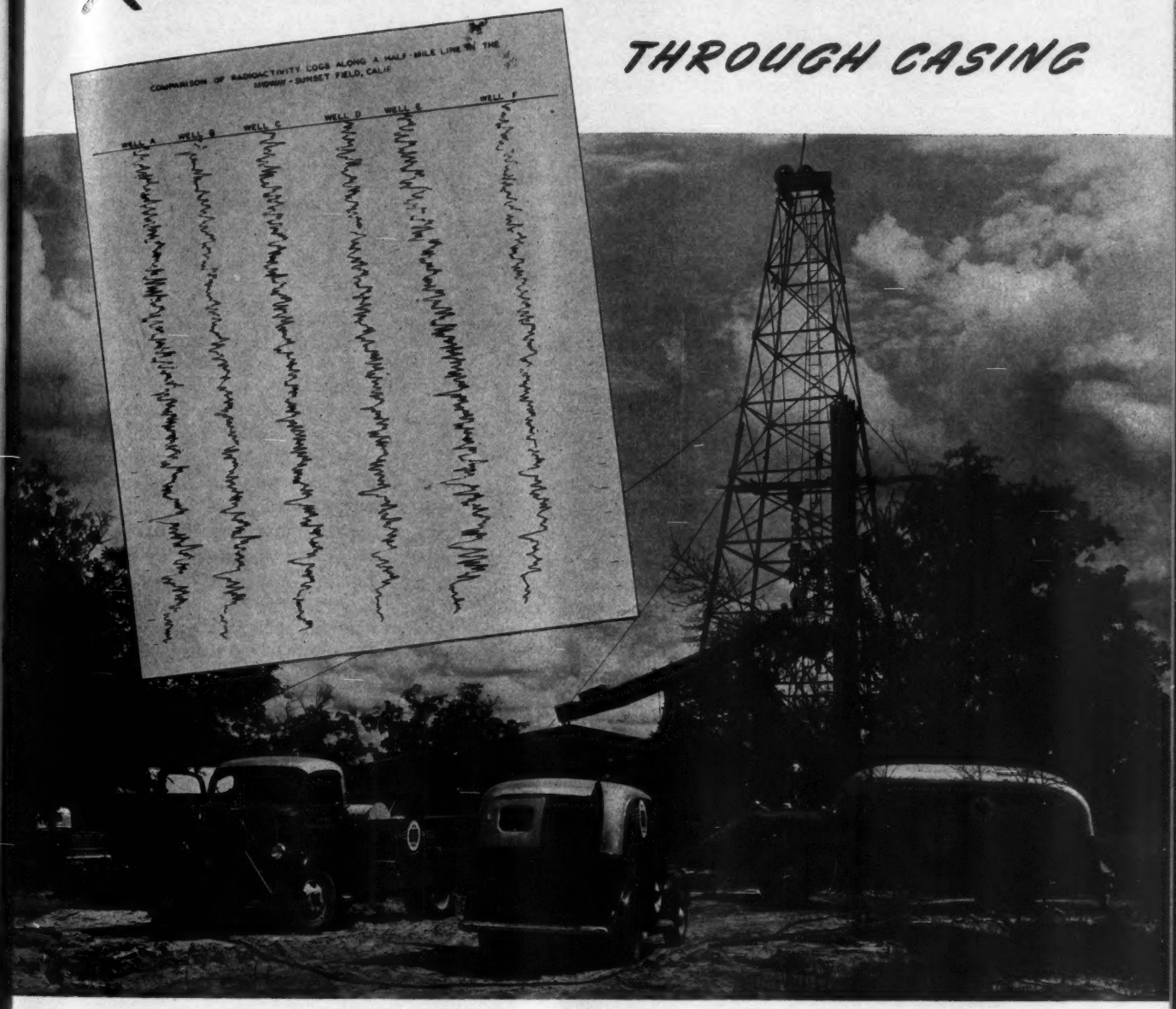
Machine tools, rubber products, chemicals, business machines, office furniture, office supplies, automobiles, trucks, and tires should not be included in project applications; there are special orders governing the rating or distribution of these materials.

Aluminum, and steel plate are on allocation and are being allocated only to those projects which are extremely important in the war program. Projects should be designed so far as possible to minimize or eliminate their use. Every effort should be made to keep steel plates under 3/16", where steel plates **must** be used.

The most critical materials are aluminum, stainless steel, chromium steel, nickel, tin, and copper. It is probable that items of material requiring these alloys will be denied by the War Production Board unless accompanying information is provided with the project application explaining why these alloys must be used, why no substitute can be used, and a further statement to the effect that the percentage of critical metals in the alloys has been reduced to a practical working minimum.

The petroleum industry's refining projects require a great deal of chromium steel. The War Production Board is insisting that projects be

RADIOACTIVITY WELL LOGGING THROUGH CASING



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Lane-Wells Radioactivity Well Logging Through Casing, the first reliable log of this kind to be developed, may be your answer to the problem of increased production and restricted drilling.

This Service makes possible the location of potential producing sands cased off in old wells. These may be determined by correlation with electrical well logs or by Gun Perforating and testing. The character of the log is not affected by any drilling or completion practices, or by the kind and amount of fluid in the hole.

The log reliably gives information impossible to obtain by any other means. A Lane-Wells Engineer will be glad to show you how clearly Radioactivity Logs correlate with electrical logs and tell you how you can profitably use this new Service . . . ***"Call your nearest Lane-Wells Office today."***

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designed with the least amount of chromium or other alloy metals possible. The War Production Board suggests that where scarce alloys are necessary, we plan on frequent replacements, if by so doing, we are able to reduce the amount of such scarce materials, unless such replacements would cause extraordinary expense, such as tearing down boiler settings, etc. Frequently 1½% chromium steel will give two years service, in equipment which is usually designed with 4-to-6% chromium. Every pound of chromium steel which the petroleum industry uses must be taken from a ship or a shell, and consequently, every pound of chromium steel is precious. All steel plate is being allocated and only those projects which are the most important in the war program are receiving it. The ship-building program is behind schedule because of the shortage of steel plate; therefore, projects should be designed as to minimize to the greatest extent possible the use of steel plates and sheets.

Steel storage tanks require plate for the large sizes and sheet for the small sizes. Before requesting new tankage, every effort should be made to find available second-hand tanks which can be cut down, moved, and re-erected at the desired location.

All large compressors are now on strict allocation and are not available except for the most vital projects. Wherever compressors, pumps, electric generators or motors are required, every effort should be made to find second-hand equipment which will do the work. They are all scarce and critical.

Where tubular goods are required use second-hand materials whenever possible. Salvage unused lines and if possible lines which are not operating to capacity. Whenever new pipe is required, a size should be chosen only sufficiently large to carry the amount of fluid which must be handled, and the weight of the pipe should be consistent with the pressure under which it must operate. Use the smallest and lightest pipe possible. Do not allow for greater capacity or greater pressure which might be required at some later date. Seamless pipe and tubing are not available except where required in processing equipment subject to high temperatures and high pressures. When possible, specify welded pipe in your application.

Buildings and other structures should be designed to use as little structural or other steel as practicable. Structural steel may be used only when it is necessary to support or carry heavy equipment, craneways, etc. Loading racks should be designed with wooden structures and walkways. Bear in mind that the use of steel alone is not fireproof construction.

It is the practice of the War Production Board to assign preference ratings sufficiently high to insure the procurement of materials only when it can be shown that the materials are to be used in a project necessary in the prosecution of the war. In very few instances is the War Production Board authorizing an increase in rating simply because material cannot be procured on the rating which has been assigned.

In making an application for a preference rating for a project as prescribed on Form PD-200 and PD-200a, the instructions should be followed implicitly and completely and each item of material and the value thereof listed in accordance with the form. When a number of items are lumped together with one value and it becomes necessary to deny or delete certain items, it is then necessary to write to the applicant for the prices of the items denied so that the value of rated materials may be shown correctly. This delay can be avoided if the applicant adheres strictly to Form PD-200 and PD-200a.

In the designing of projects for which a preference rating is to be applied, engineers should become reconciled to the fact that we are engaged in an all out war requiring scarce materials far in excess of our available supply. Many engineers are designing for long life and with high factors of safety just as they designed before we entered the war, when these scarce materials were abundant. Every feature of design should be studied with the thought in mind of reducing or eliminating the amount of scarce materials to the greatest extent possible. We must become reconciled to a less permanent type of structure even though we may have to replace parts of it at frequent intervals. The War Production Board recognizes that temporary or cheap construction and the absence of stand-by facilities creates certain hazards, but it believes that industry must assume its share of the hazards along with the Army and the Navy.

Heavy Crude Group Elects W. H. Morgan

The California Heavy Crude Oil Committee, organized by the oil industry to furnish data to the Office of Price Administration for its use in considering prices of crude oil in California, held its organization meeting May 28 and elected W. H. Morgan of the R. R. Bush Oil Co., Long Beach, its chairman. Lot Bowen, Western Gulf Oil Co. was made vice-chairman and Stark Fox, Oil Producers Agency, secretary.

The committee consists of representatives of 28 California oil companies, and was organized following receipt of a letter from Geo. W. Doffing, price executive in the O.P.A., to E. E. Pyles, chairman of the Production Committee for District No. 5, in which the information needed by the O.P.A. "in any consideration of prices for heavy crudes in California" was outlined by Mr. Doffing.

The committee was elected by a meeting of 96 California operators, who had been nominated at a previous meeting of the six California oil producer trade associations.

The only business in addition to actual organization of the committee was the authorization to the chairman to appoint a working sub-committee of 12 to gather the data requested by the O.P.A. These men have not yet been selected.

General discussion centered around the necessity for higher prices for California crudes, especially heavy crudes high in fuel oil content, if operators were to be able to continue production. Statistics covering the period since the first of the year indicate that drafts on residual

fuel oil in the hands of California oil companies have averaged more than 55,000 barrels per day, and that it is necessary to stimulate additional production if this trend is to be reversed.

Problems of oil allocation within pools, and to wells, were under principal discussion at the regular monthly meeting of the Conservation Committee of California Oil Producers May 29.

It was pointed out that operating conditions sometimes made it difficult to comply with the requirement in Recommendation No. 19 that allocations be made on a well basis, even though it was frequently agreeable to operators concerned in the area for one operator to modify his production schedule to take care of exceptional conditions. Recommendation No. 19 is the basic document approved by Oil Coordinator Ickes under which oil production in California is allocated.

After discussion of the problem, the Conservation Committee assigned it to the Allocation Subcommittee, with instructions to submit suggested methods for its solution.

It was also announced that ballots for election of members to the Committee for the fiscal year 1942-1943 are being mailed to operators.

Protest Rationing California Gasoline

Protesting nationwide rationing of gasoline until a complete study of the scrap rubber situation has been made, Oil Producers Agency of California on June 5, wired all California Senators and Congressmen to exert every effort "by legislative action or intervention with the President" to avert rationing in areas where gasoline itself is plentiful, as in California.

The telegram pointed out that E. E. Simpson, New York rubber dealer and manufacturer's representative, in testimony before the Oil Sub-Committee of the House Interstate and Foreign Commerce Committee, had said that no attempt has thus far been made to make use of the vast supply of rubber held in scrap piles throughout the nation, and in the nation's homes and factories.

In commenting on this testimony, the Agency telegram, signed by Rush M. Blodget, Executive Vice-President, said:

"Simpson is right when he says no genuine attempt has been made to use scrap rubber, for our oil industry questionnaires indicate that California oil men have gathered up their scrap rubber but heretofore have not been able to find buyers for it at any price."

The telegram also said that "the entire effort to compel nationwide gasoline rationing should be postponed at least 90 days until the government's belated drive for scrap rubber and its belated effort to make reclaimed tires for civilian use has had a chance to call out of civilian domestic and industrial store rooms the almost unlimited supply of used rubber."

The telegram follows in full.

We are hoping with desperate hope that our Congressional delegation either by legislative action or by intervention with the President can avert the threatened imposition of the devastating order for nationwide gasoline rationing for saving of rubber. American citizens can be trusted to conserve their own tires better than officials can do it for them. Every American is rubber conscious. Concentrated overloading of public service vehicles will soon exhaust their rubber while citizens tires stand idle, just as the ill advised back haul order in ODT Nos. 5 and 6 will compel suspension of use of private trucks and quickly exhaust tires on common carrier trucks. We have read Simpson's testimony and believe his voice in the wilderness of disorder is the clearest voice that gives a sound and seasoned analysis of the rubber problem. He is right when he says no genuine attempt has been made to use scrap rubber for our oil industry questionnaires indicate that California oil men have gathered up their scrap rubber but heretofore have not been able to find buyers for it at any price. The entire effort to compel nationwide gas rationing should be postponed at least ninety days until the government's belated drive for scrap rubber and its belated effort to make reclaimed tires for civilian use has had a chance to call out of civilian domestic and industrial store rooms the almost unlimited supply of used rubber. Oil Producers Agency of California, by R. M. Blodget, Vice President.

Production Capacity Evaluation Method

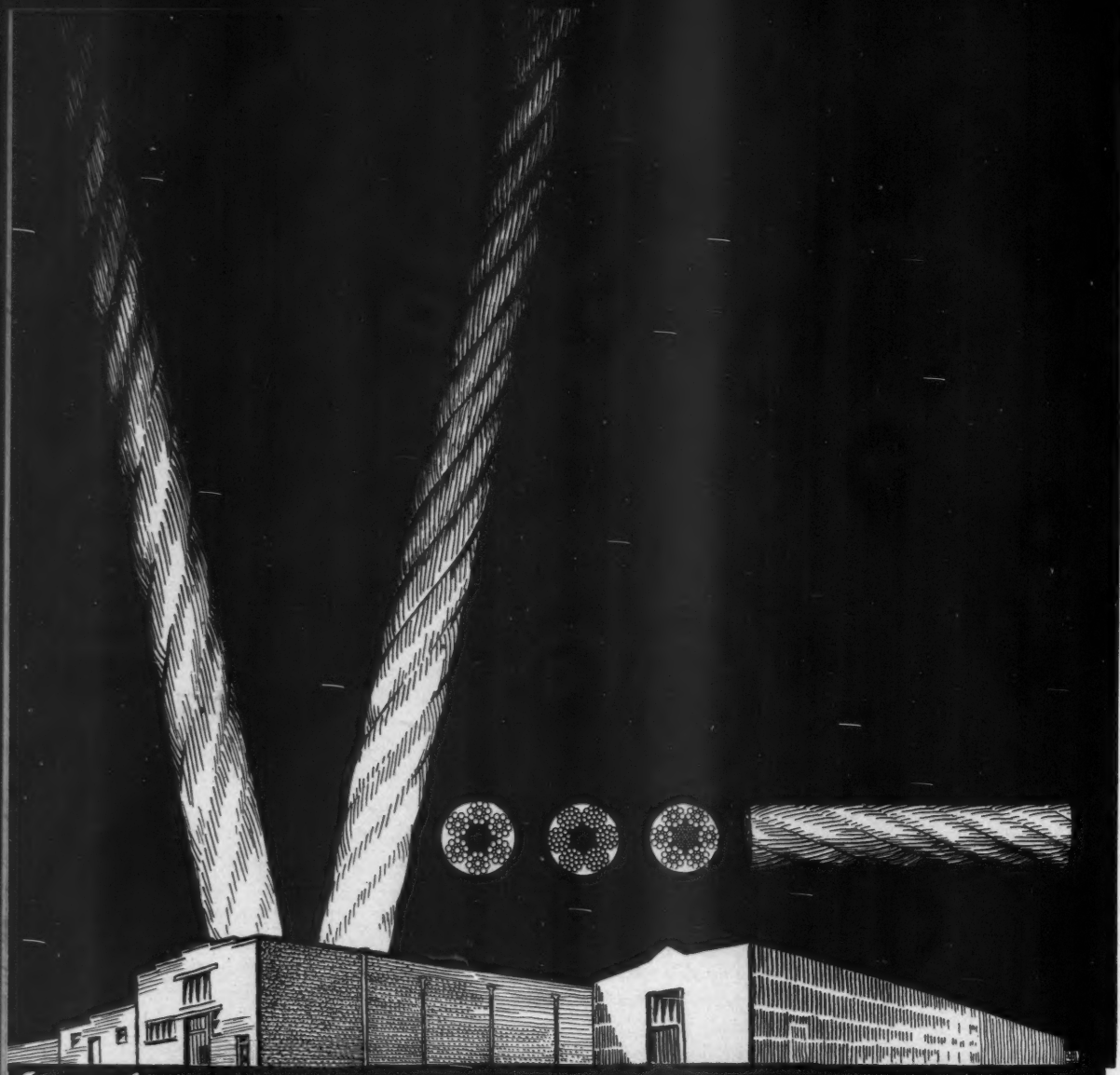
A new method of evaluating the producing capacities of oil wells by comparing the amount of recovered petroleum with the decline of pressure in the resevoir has been suggested by Bureau of Mines engineers following an extensive study of reservoirs in different parts of the country, Dr. R. R. Sayers, Director of the Bureau, has informed Secretary of the Interior Harold L. Ickes.

Results of the investigation have provided a "new tool" useful in analyzing the performance of individual petroleum reservoirs and in determining the efficiency of operating methods, Dr. Sayers stated, which is expected to be of considerable value in the current wartime emergency when production of oil to meet essential requirements, such as aviation gasoline, is desirable.

Described as a way to determine oil-reservoir behavior based upon pressure-production data, the Bureau's present study deals with conditions in representative oil fields.

By plotting the cumulative decline of reservoir pressure against the cumulative amount of oil recovered, the presentation of a graphic logarithmic chart showing the relationship between them is possible, according to the report which has just been published by the Bureau of Mines.

In explaining that the recovery of oil from the ground is an admittedly complex problem, the report points out that it involves a knowledge of the flow of fluids through underground porous mediums, as well as an understanding of the sources of energy responsible for the movement of oil and gas through reservoir sands and rocks to the wells.



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THIS

LAUGH

OFF!!

Ray Alexander contributes this one:

Customer: "And you have the nerve to ask $5 a bottle for this nerve tonic?"

Druggist: "Yes, sir, it shows what the stuff will do. I take it regularly."

Sam Eastman lightens the streetcar era with:

The Timid Soul stood on a street corner waiting for a streetcar, his arms full of packages. Glancing down, he saw his garter dragging over his shoe. Stooping over to remedy it, he burst his back suspender buttons, causing said suspenders to snap up around his neck, adding to his embarrassment.

A lady waiting for the same car was an amused witness, and as the car stopped she politely inquired: "Shall I put your token in for you?"

The horrified Timid Soul exclaimed: "My heavens, is that out, too?"

Sam Gridlan came up with this one:

A motorist drove into a filling station and asked for five gallons of gasoline and a quart of oil.

"MacArthur is certainly doing a wonderful job for this country, isn't he?" chatted the motorist.

"MacArthur—" mused the attendant. "Who's MacArthur?"

"Change that order," said the motorist. "Give me four tires and fill the gasoline tank."

A touching story is this one told by **R. S. Miesse:**

A petroleum engineer stopped for the night at a gauger's cabin and was astonished to find that the gauger had a young and beautiful wife. Early in the evening the gauger received a summons to go immediately to town, to appear for jury duty the following morning, so he set out after dark, leaving the engineer with the young and beautiful wife. After a pleasant evening of conversation, the engineer had just started to retire when there was a rap on his bedroom door and the young wife said: "How would you like a bedfellow?" The engineer was somewhat taken back but readily agreed. "That's fine," said the wife, "a geologist just arrived and we have no place for him unless you allow him to sleep with you."

Mother — I'm so glad, twins, you're sitting quietly and not disturbing daddy while he has his nap.

Twins — Yes, mummy, we're watching his cigarette burn down to his fingers.

Ernie Pyles says that:

The latest Washington story is that they have a very simple and rapid test for stenographers. The candidate for a job is ushered into a room which has in it a washing machine, a typewriter, and a machine gun. If the girl recognizes which is the typewriter, she's hired.

Harvey Lee on telephone technique:

"Perkins, Parkins, Peckham and Potts—good morning."

"I want to speak to Mr. Perkins."

"Who's calling, please?"

"Mr. Pincham of Pincham, Pettem, Poppum and Pogg."

"Just one moment, please, I'll connect you with Mr. Perkin's office."

"Hello, Mr. Perkin's office."

"I want to speak to Mr. Perkins."

"Mr. Perkins? I'll see if he is in. Who's calling, please?"

"Mr. Pincham."

"Just one moment, Mr. Pincham. Here's Mr. Perkins. Put Mr. Pincham on, please."

"Just one moment, please, I have Mr. Pincham right here. Okay with Perkins, Parkins, Peckham and Potts, Mr. Pincham. Go ahead."

"Lo, Joe? How's about lunch?"

"Okay."

Names used on this page are entirely fictitious, and any resemblance to persons either living or dead is purely coincidental.

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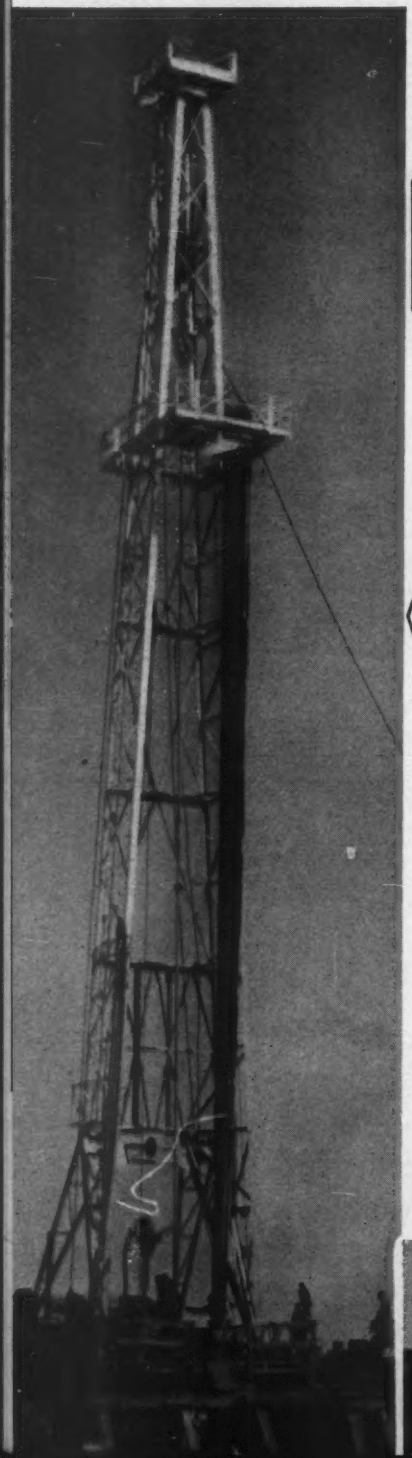

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TELESCOPING MASTS

Drilling - Production

90-foot masts of type shown at right have a HOOK CAPACITY of 200,000 or 250,000 pounds. Pipe racking capacity is: TUBING—13,000 feet 2½-inch external upset or 8,700 feet of 3-inch external upset. DRILL PIPE—3,200 feet or 5 9/16-inch; 4,600 feet of 4½-inch; 7,000 feet of 3½-inch. A 65-foot mast of same type with hook capacity of 100,000 pounds is also available.

IDECO-Moore 96-foot and 126-foot

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The cantilever mast at left is one of the most important developments in drilling equipment in years. It is self-supporting, and completely serves the purpose of a standard drilling derrick for it incorporates a base for mounting the mast, draw works, rotary table and power. Can be erected ready for drilling by regular drilling crew using a winch truck in less than one tour.

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Field Development

Los Angeles Basin

Three Start In Del Valle Field

In the westerly section of the Del Valle field, Standard Oil Co. and Ohio Oil Co. are preparing to drill new wells. The Standard job, Sepulveda No. 3 is located in the center of the sw¼ of the nw½ of se¼ of sec. 17, 6n-17w to which point roads are being graded. Ohio's Vasquez No. 3, for which rig has been built, is located as an offset 938 ft. north and 2282 ft. east of the southwest corner of the section. It is also understood that Herley-Kelley will soon start a well in section 18 of the westerly portion of the field.

In the easterly or main portion of the Del Valle field, R. E. Havenstrite, who discovered the field with Lincoln No. 1 in October 1940, is drilling Barnes No. 2 at 2100 ft. after cementing 13⅝ in. surface casing at 651 ft. The operator is working over Barnes No. 1 originally completed late last year. The well was bridged above the old perfs at 5950 ft. and finally gun perforated in the interval 5890-95 ft. and started flowing through the tester at a 200 bbl. rate. Still flowing by heads at press time the daily gauge was 112 bbls. of 31.5 gravity oil cutting 44.0%.

West Coyote Test Results Unreported

Standard Oil Co.'s Murphy-Coyote No. 129 in the West Coyote field is still making deep hole without divulging its findings. Last reported drilling at 9006 ft. from a structurally high position the well proposes to thoroughly prospect the deep potentialities of the area. Additional normal development is being started by locating No. 130 and 131 for immediate drilling.

Wilmington Work To Continue Apace

In spite of the general difficulties in meeting present day drilling requirements several Wilmington projects have surmounted them and received permission to proceed.

Latest to receive official approval are D. D. Dunlap Oil Co. for L. B. H. D.-Cerritos No. 1 in the Long Beach Harbor area, and The Texas Co. for Oakley No. 7 west of Figueroa and north of State Street in the Wilmington-Torrance area. It is understood that Bristol Oil Corp. and Allen Brown have each reached the point in negotiations where their wells may soon be added to Wilmington-Torrance area development.

On Terminal Island the Long Beach Oil Development Co. has adjusted all difficulties with controlling organizations and is calling for bids on 10 Ranger zone wells to be immediately started on the "W" parcel.

The Union Pacific Railroad Co. is continuing heavy oil development by operating two strings of tools on its large holdings. Nearing completion from 3395 ft. is No. 217 while No. E-40 is being readied for spudding.

In the townlot area Zephyr Oil

LOS ANGELES BASIN WILDCATS

Area	Well	No.	Section	Depth	Status
Castaic	Mangold & Morse, McDermott	1	26, 5-17	4315	Idle
	Young, Roy W., Inc., Walker	1	11, 4-16	9621	Reaming
La Mirada	The Texas Co., McNally	A-2	15, 3-11	8956	Drilling
Newhall	Airline Oil Co., Perkins	1.	11, 3-16	2610	Idle
Palos Verdes	Surety Holding Co.	1	22, 5-14	1480	Idle
Puente Hills	Continental Oil Co., Turnbull	3	13, 2-11	4865	Drilling
	Lytle, Robt. S., Opr., Central	1	15, 2-11	5912	Abandoned
	Lytle, Robt. S., Opr., Corehole	A	15, 2-11		Prep to spud
Rio Hondo	Potrero Oil Co., Newman	1	32, 1-11	5430	Idle
San Fernando	Barnsdall Oil Co., T.I.T.	1	30, 3-15	2492	Drilling
	Fernando Oils, Ltd., Chatsworth	1	18, 2-16		Rig
	Tide Water Assoc., Sesnon	1	28, 3-16	8912	Testing
Whittier-La Habra	Los Nietos Valley Oil Co., Woodward	1	29, 2-11	50	Idle
	Orange County				
Anaheim	The Texas Co., Buena Park	1	6, 4-10	7651	Drilling
	The Texas Co., Buena Park	4E-1	36, 3-11	6947	Drilling
Bolsa Chica	La Bolsa Ro. Synd., Crane	1	22, 5-11	7310	Redrilling
Costa Mesa	Thompson, Milton N., Banning	1	9, 6-10	5649	Idle
	San Bernardino County				
Carbon Canyon	Stella, E. F., McDermott	2	5, 3-8		Material
	Union Oil Co., Newman Bros.	1	2, 3-8		Location

Co. is reported ready to start on its grass root job opposite Banning Park while Royalty Service Corp., Jergins Oil Co., Oil Investments Inc., Port Oil Co., O. M. Slosson and Wilmington Oil Development are in varying stages of routine redrill jobs.

Lytle Quits and Starts In Turnbull Area

Robert S. Lytle abandoned Central No. 1 at 5912 ft. near the center of the southeast quarter of sec. 15, 2s-11w in the Puente Hills-Turnbull Canyon area. Bottomed in gray sand and fractured shale, the well found no oil sands during drilling. The operator has moved 600 ft. westerly to employ a portable rig in drilling Corehole A as a prospect job before attempting another full size hole in the geologically complex area,

Continental Oil Co.'s Turnbull Community No. 3, at Los Lomitas Drive and Newton Street in section 13 of the township, entered light brown oil sand carrying streaks of gray sand at 4505 ft. and was last reported some 86 ft. into the zone.

Marion Testing H. Beach Well

John H. Marion's Fee No. 1 in the 5 points area of the Huntington Beach field is swabbing for production after bottoming at 4231 ft. and landing a 5½ in. combination string, including 45 ft. of perforation at 4155 ft. to try the best part of the zone encountered below 4110 ft.

At the easterly flank of the city, in the flatlands referred to as the Surf area, Frankley-Harriman, Inc. is rigging up to drill Mills No. 1 as a wildcat to try for offset production to the 20 year old wells on the Standard Oil Co. Surf and Gisler leases.

Operating from onshore locations at the northwesterly edge of the city of Huntington Beach, Southwest Exploration Co. is continuing its drilling program and is currently whipstocking State No. 52 to its allocated position and bottom below the sea on State owned tidelands.

Castaic "Cat" Getting Deep

Roy W. Young's Walker No. 1, in sec. 11,4n-16w northeast of the Saugus Junction, has reached 9621 ft. to gain the distinction of the deepest hole in the entire Castaic area. Now reaming near 9000 ft. to condition the hole after bottoming in hard gray siltstone, the well has shown nothing of commercial promise although some sands showing gas and slight cuts have been noted on the way down.

La Mirada "Cat" Near 9000 Ft. Mark

The Texas Co.'s La Mirada Wildcat, McNally No. A-2, was last reported spot coring at 8966 ft. after cementing a 7-in. protective string at 8911 ft. Located on sec. 15,3s-11w between West Coyote and Santa Fe

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During the Depression

CONSERVING strategic materials for war involves problems in engineering production equipment for marginal wells parallel to those encountered in obtaining profitable production during depression periods.

Shown above is one of several recent, successful Band Wheel Drive installations in the Signal Hill district—designed to utilize existing equipment to the utmost, and to keep operating costs at a minimum.

Their efficiency traces back to the pioneer unit illustrated in the lower photo—completed in the Taft district in 1930. From this early project, and the hundreds more which followed, Pacific engineers acquired a peace-time background in Slow Speed Pumping that adequately prepared them for war-time assignments.

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WESTERN GEAR WORKS—Seattle, Washington

Springs the well has reported nothing of moment to date. Geologic information has been well guarded on this well but reliable reports indicate that encountered sand phases have been gray with only occasional gas showings.

In the nearby Buena Park play, which The Texas Co. instituted after completing Spencer No. 1 in March of this year, the company is carrying two exploration strings in an effort to partially delineate the producing area. The area is located along the main highway south of Buena Park near the northwest corner of township 4 south range 10 west. First to get under way was Buena Park One No. 1 now coring for sand zones at 7651 ft. while the other, Buena Park 4-E No. 1, is preparing to core after reaching the 7000 ft. mark.

The discovery well, while never rated as a large volume commercial producer in its present condition, is accorded an excellent chance at much better production if more sands are opened. Drilled to 9660 ft. the well was repeatedly perforated and tested in manifold zones and finally placed on production in the interval 8900-9932 ft. flowing 100 bbls. of clean 21 gravity oil. Results of this Repetto production is said to convince many competent observers that a field of major importance may be developed.

New Well For Richfield Area

Hamilton & Sherman, well known local operators, have signed a drilling contract with the Bender Drilling Co. for another 5000 ft. test of the Kraemer property in the Richfield area.

Tide Water Testing San Fernando Try

Tide Water Associated Oil Co.'s Sesnon No. 1, most westerly of the wells in the San Fernando area of Los Angeles county, is running liner to try oil sands encountered below 8670 ft. where 7 in. casing was cemented. A 21 minute formation test of the interval 8683 ft. to bottom at 8912 ft. blew gas at an estimated 1,250,000 cu. ft. rate and recovered some gassy mud with a trace of oil. No claim has been made for the quality of sands encountered but test results indicate considerable promise.

Nearby in sec. 30,3n-15w Barnsdall Oil Co., in company with Seaboard Oil Co., is drilling T.I.T. No. 1 at 2500 ft. The site is west of San Fernando near the Los Angeles municipal water reservoir.

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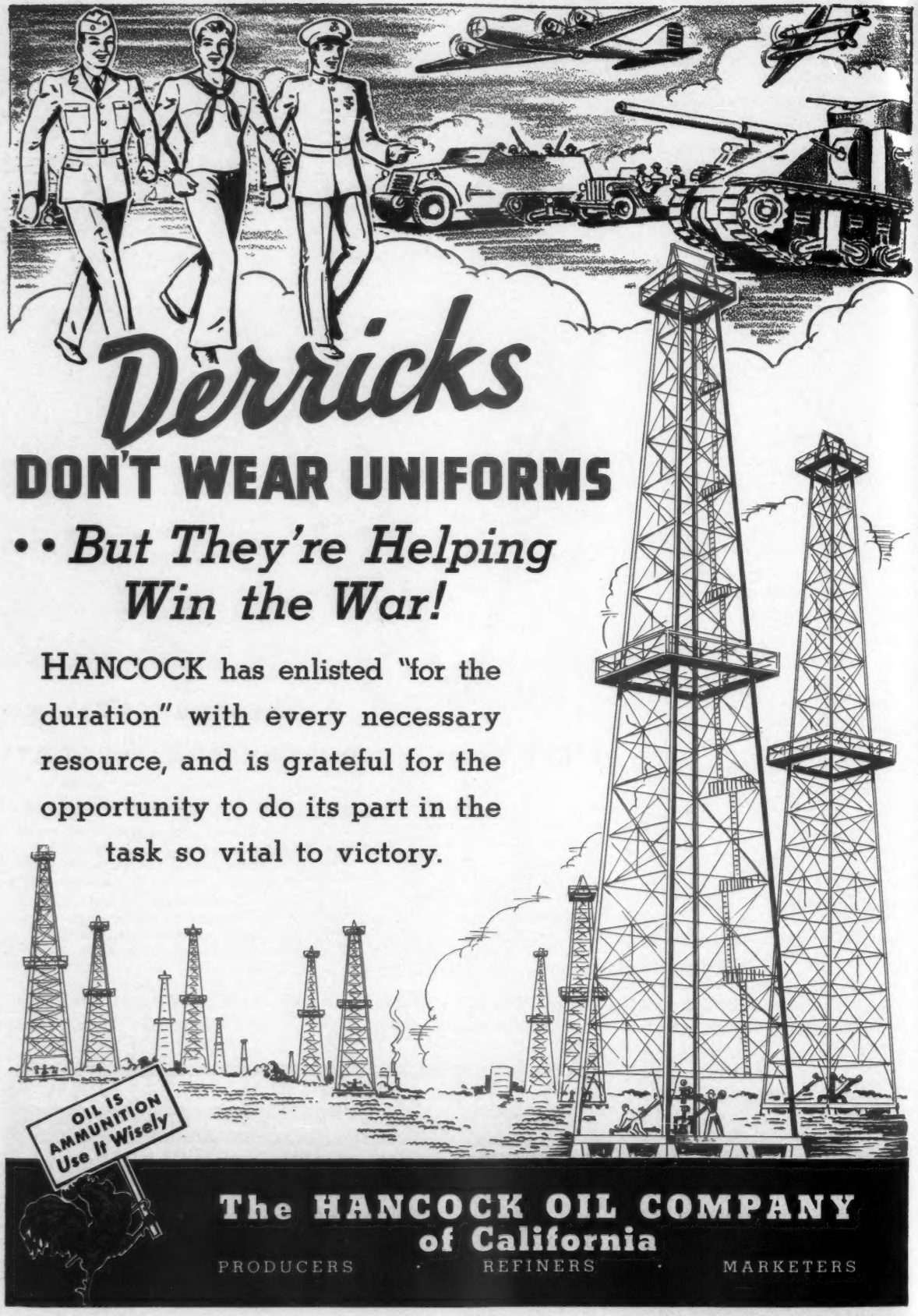
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San Joaquin Valley

Richfield Oil Plans Tulare Co. Wildcat

Richfield Oil Corp. has staked tentative location for Churchill No. 1 as a wildcat in the northwest corner of sec. 35,20-24 near the Oakland Colony school, some 3¼ miles south of the town of Tulare. There is some possibility that the well may be relocated on another part of the acreage due to the site's proximity to government installations. It is understood that the well will be contracted.

Burrell Test Makes Gas Flow

Four and a half miles southeast of the Helm producing area and a like distance west of the town of Burrell in sec. 6,17s-18e, Amerada Pet. Corp.'s Truman No. 4-6 indicated possibility of production by flowing gas at an estimated 10,000,000 cu. ft. rate from plugged depth of 8020 ft. and is currently running casing for a more complete trial. Bottomed at 8295 ft. in hard shale the well was plugged back to 8020 ft. for the test on gas sands showing oil below 7970 ft.

On sec. 27,16s-18e Richfield Oil Corp.'s Schultz No. 1 is spot coring in hard shale at 7571 ft. without having reported either showings or its position in the geologic column.

In the Helm producing area, Amerada Pet. Corp's. Weyant No. 37-27 is nearing the productive zone and was last reported coring at 7590 ft.

Lytle Testing Lower Eocene

Robert S. Lytle, Operator, in combination with Seaboard and Honolulu Oil Corps., is deepening in Eocene sands at 9700 ft. in the Guijarral Hills wildcat No. 68-28F. Located in sec. 28,20s-16e south of the Coalinga Eocene Pools on a line with the Kettleman North Dome field, the test sought production similar to the Vaqueros and Eocene oils produced in the adjacent Valley fields. Nothing was reported concerning the Vaqueros in the try but the upper Eocene section, topped at approximately 9420 ft., proved wet on a trial at 9450 ft. In looking at the lower sections in this area the well is exploring wholly unknown formations since the deepest adjacent drilling was the old Petroleum Securities Ladd No. 1, drilled in the southwest quarter of the section in 1929 to 7382 ft. Bottomed in shale, the well topped the Temblor at 6464 ft. and finished without finding Vaqueros sands. At the time this well was drilled production had not been established in the immediate area and was not found until 1938 when Robert S. Lytle completed Gatchell No. 2 in the northwest corner of sec. 18,20s-16e at 6908 ft. flowing through the tubing and casing at an estimated 20,000 bbl. rate. Brought under control through a 38/64 in. tubing bean and a high pressure meter the well flowed 32 gravity clean oil under extremely high pressure at a 9,000 bbl. rate before being gradually beaned back to normal producing rates.

Seaboard-TWA-Union Get Good Northern Well

In the Raisin City field of Fresno county Seaboard-Tide Water Assoc. and Union Oil Cos. finished S.T.U. No. 86-13 from the upper oil zones after the "88" zone from 5125 ft. to bottom at 5320 ft. proved meager. Located at the westerly flank of the field, in sec. 13,15s-17e, the well was plugged to 5107 ft. and finished in the intervals 4995-5010 ft. and 5085-

SAN JOAQUIN VALLEY WILDCATS

Area	Well	No.	Section	Depth	Status
	Fresno County				
Burrel	Amerada Pet. Corp., Truman	4-6	6, 17-18	8295	Rng. casing
	Richfield Oil Corp., Schultz	1	27, 16-18	7571	Drilling
Guijarral Hills	Lytle, Robt. S., Opr., Well	68-28F	28, 20-16	9690	Drilling
Helm	Amerada Pet. Co., Weyant	37-27	27, 16-17	7590	Drilling
Jacalitos	Wilshire Annex Oil Co.	23-26E	26, 21-15	3787	Idle
Mendota	Jergins Oil Co., Cheney Ranch	3	30, 14-13	6772	Drilling
Riverdale	Amerada Pet. Corp., Clemente	74-22	22, 17-19	5753	Drilling
	Amerada Pet. Corp., Zanolini	38-23	23, 17-19	6663	Drilling
	Amerada Pet. Corp., Lawton	58-26	26, 17-19	10496	Drilling
	Amerada Pet. Corp., Leal	34-26	26, 17-19	6915	Suspended
	Kern County				
Antelope Hills	C.C.M.O. Co., Antelope Fee	7-1	7, 28-20	2901	Rng. elec. log
	Shell Oil Co., Inc., Williams	67-6	6, 28-20	3419	Swabbing
Comanche Point	Le Brat Synd., Well	1	33, 12-18		Rig
Devils Den	Moran, Robt. B., Opr., Beer	1	19, 26-19	1420	Drilling
Edison	M.T.M. Associates, Well	1	23, 30-30	956	Idle
Grapevine	Reserve Oil & Gas Co., Tejon	33-5	33, 11-19		Location
	Richfield Oil Corp., Tejon Ra.	3	7, 10-19	7073	Drilling
Kern Front	Standard Oil Co., Well	42-9	9, 28-27		Rigging up
Kettleman-So.	Bristol Oil Corp., Hellman	1	2, 25-19	2174	Idle
McKittrick	Americal Pet. Inc., Americal	1	2, 30-21	2492	Drilling
McKittrick Front	Westates Pet. Corp., Kimball	3	32, 29-22		Location
Midway-SE.	The Texas Co., P.U.P.	2	33, 11-23		Grading roads
Mt. Poso	Delaney, Fred G., Well	1	12, 27-27		Location
	Vedder, Dwight G., Glide	29-2	29, 27-28		Location
Paloma	Gen. Pet. Corp., Gallagher	61-33	33, 31-26	6753	Drilling
	West'n. Gulf Oil Co., L. A. C.	36-1	1, 32-26		Foundation
Shale Hills	Tideland Oil Co., Grant Est.	1	4, 27-28		Swabbing
	Kings County				
Pyramid Hills	Miesse, Richard S., Jackie	1	22, 24-17	315	Idle
	Pac. O. & G. Dev., West Slope	2	20, 24-18		Location
	Tulare County				
Terra Bella	Stout, Geo. W., Stout	2	11, 23-27	745	Idle
Trico	Trico Oil & Gas Co., Lee	1	17, 24-23	2475	Abandoned
	Trico Oil & Gas Co., Lee	2	17, 24-23		Location

5105-ft. flowing an unestimated amount of clean oil to the sump and an estimated 10,000,000 cu. ft. of gas before being shut in under 1750 lbs. pressure. The upper gas sands were logged at 4991 ft. and the oil sands at 5014 ft.

In the same section the operators have spudded S.T.U. No. 53-13 and were last reported drilling at 1254 ft.

Across the township line in sec. 19,15s-18e Shell Oil Co. Inc., discoverer of the field, is still awaiting official approval before spudding Santa Ana and Fresno Land No. 22-19.

Amerada Pushes Riverdale Work

Amerada Pet. Corp. is continuing its development of the Riverdale area employing three strings of tools. Deepest and apparently most critical of the jobs is Lawton No. 58-26 at the southerly flank of the Fresno county field in sec. 26,17s-19e currently prospecting at 10,496 ft. after finding the Kreyenhagen at 7635 ft., the Eocene at 8000 ft. and what is believed to be Cretaceous at approximately 8150 ft. No comment has been passed concerning the worth of encountered zones but it is probable that nothing of tremendous moment has been found to date. In the same section the company's Leal No. 34-26 is suspended after bottoming at 6915 ft. and plugging and testing by stages to 6485 ft. where the zones still appeared incapable of commercial production.

In sec. 22,17s-19e the company's Clemente No. 74-22 is drilling at 5733 ft. while its Zanolini No. 38-23 in section 23 is turning to the right at 6663 ft.

The area under development was discovered by Amerada in December, 1941, when its Lawton No. 45-26 was completed flowing 560 bbls. of clean 34 gravity oil and more than a million and a quarter cubic feet of gas under restriction.

Gatos Creek Well Yet Standing Idle

The Gatos Creek Oil Co. well No. 1, sec. 19,19s-13e, in the undeveloped area west of the old Coalinga fields in Fresno county in standing idle at 1027 ft. Drilled with cable tools to its present depth, the project has been intermittently working since 1939.

Second Antelope Hills Well Completed Gasser

Shell Oil Co. Inc. Williams No. 67-6, second well in the newly discovered Antelope Hills field, located southeast of discovery in sec. 6,28s-20e was completed as a gasser in the intervals 1846-2005 ft. and 2041-2188 ft. after the objective oil sands were found too low to produce from 2240 ft. to bottom at 3419 ft. With 2½ in. tubing and packer landed at 1789 ft. the well was swabbed in flowing 409,000 cu. ft. of gas and 26 bbls. of water through a 48/64 in. bean under only 18 lbs. flow pressure. No condensate accompanied the flow.

The discovery well, Williams No. 45-6 was finished from 60 ft. of zone at 2340 ft. flowing 680 bbls. of clean

2 speeds forward and instantaneous reverse on all reels
BULL REEL
Average line speed 370 FPM in high gear. Pulls to 28,900 pounds in low. Spools to 6,900' of ⅞" cable without divider.
SAND REEL
Average line speed 980 FPM in high gear. Pulls to 12,400 pounds in low. Spools to 6,200' of 9/16" cable without divider.
CALF REEL
Single line rope speeds up to 424 FPM in high; single line pull to 18,800 pounds in low, or 94,000 pounds on 6-part tackle. Spools 600' of ⅞" cable.
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16.4 gravity oil on May 11th of this year.

The third well in the area, C.C. M.O. Co's. Antelope Fee No. 1, near the north line of sec. 7,28s-20e, was last reported running electric log to bottom at 2901 ft. in brown claystone after finding only a few showings in the top of the sand zone at 2110 ft.

Devils Den Try Finds Sands Low

Robert B. Moran, Operator Beer No. 1, on sec. 19,26s-19e in the Blackwells Corner section of the Devils Den area, is coring gray sand and shale at 1420 ft. The try is running much lower than Etienne Langs Occidental No. 1 which was completed in the center of the southwest quarter of section 30, early this year, pumping approximately 25 bbls. of 13.5 gravity oil cutting 10.0% from the interval 848-1000 ft.

In the post hole section of Devils Den R. S. Miesse spudding McCalden No. 1 in sec.26,25s-18e and was last reported at 85 ft.

Operators Start South Midway Try

Joined by Richfield Oil Corp. who also holds acreage in the play, The Texas Co. is grading roads to drill Pioneer Union Plan No. 2 in the northwest quarter of sec. 33,11n-23w some two and a half miles southeast of the Sunset-Midway field. The test is located 1600 ft. south of Texaco's P.U.P. No. 1 which bottomed at 8869 ft. in 1938 after finding Eocene sands showing some cut and odor at 8388 ft.

Two to Start At Mount Poso

Two projects are under way in the Mount Poso area. It is believed the first to get under way will be Fred G. Delaney's well in the northeast quarter of sec. 12,27s-27e, some two and a half miles west of the northerly part of the main Mt. Poso pool.

The other project is Dwight G. Vedder's Glide No. 29-2 in the southwest quarter of sec. 29,27s-28e northwest of the small production which Vedder and the Signal Oil & Gas Co. effected near the south quarter corner of the section during 1940. Bottomed at 2314 ft. after entering Vedder oil sand at 2300 ft. the discovery was finished pumping 125 bbls. of clean 16 gravity oil. Apparently finished in one of the small fault blocks typical of east Valley field areas the strike is yet the lone producer in the immediate area. Signal & Vedder later drilled an extension try southeast of the well which was abandoned at 2393 ft. and after finding the zone too low to produce.

Trico Misses Good Gas Zone

Trico Oil & Gas Co.'s attempt to find typical Trico field production

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near the west quarter corner of sec. 17,24s-23e of Tulare county failed when its Lee No. 1 was abandoned in clay at 2475 ft. after missing productive sands. A formation test of the interval 2397 ft. to bottom noted only a slight gas blow for 40 minutes while no fluid was noted during the test. The company is preparing to drill another well in the section one half mile east of the dry hole.

Shell Oil Completes Delayed 10 Sec. Well

Shut down at 5619 ft. under regulations of Order No. M-68 in Janary, 1941, Shell Oil Co. Inc. resumed and completed KCL No. B-71-31 in the northeast corner of sec. 31-30s-26e. Finished at 8220 ft. after entering the oil sand at approximately 7980 ft. the well initialled 1620 bbls. in 17 hours under open flow conditions. Gas on the first flow was estimated at 2,150,000 cu. ft. A potential flow test rated the well at 2077 bbls. per day. Presently flowing through a 7/64 in. orifice the well is making 177 bbls. of clean 33.3 gravity oil and 988,000 cu. ft. of gas under 800 lbs. tubing pressure and 1450 lbs. casing pressure.

Also released from idleness for the same period is the company's KCL No. A-22-30 in the northwest corner of section 30 of the township. Suspended at 4712 ft. the well is currently deepening at 5200 ft.

Americal Deepens Old McKittrick Well

Americal Pet., Inc. is deepening the old F. E. Fairfield Williams No. 2 on lot 5 of sec. 2,30s-21e, north of the McKittrick field. The wildcat was abandoned without showings in gray shale at 1530 ft. in late 1939. Currently deepening in brown shale at 2492 ft. the well reports having encountered gas showings in green sands found at 1700 ft.

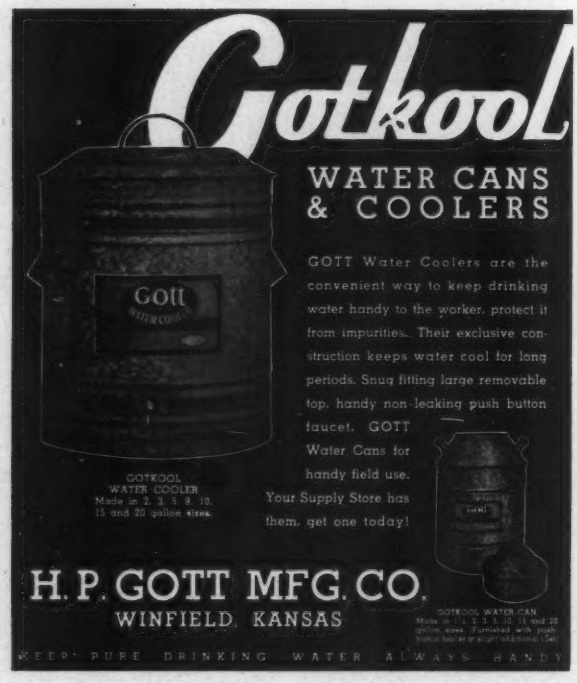
In the McKittrick Front area Westates Pet. Corp. is preparing to drill Kimball No. 3 near a small pool of heavy oil production in the southwest corner of section 32,29s-22e.

Doyle Abandons Midway Wildcat

An attempt to extend production to the southeast quarter of sec. 3,31s-22e at the north end of the Sunset-Midway field failed when Doyle Pet. Co.'s Wilmas No. 1 was abandoned at 1233 ft. without encountering oil sand. · The operators are reported planning a second try on another portion of the old Atlas Oil Co. properties.

Signal O & G Completes Mount Poso Pumper

Signal Oil & Gas Co. has finished Glide No. 23-1 in sec. 23,27s-28e pumping to the sump at an estimated 75 bbl. rate from Vedder sands at 1532 ft. No. 23-2 in the same section is bottomed at 1488 ft. and is ready to complete as soon as electric pumping power lines are installed. The wells are located in a recently discovered fault block east of the main Mount Poso field body.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Two Complete In Coalinga Eocene

In the East Coalinga Eocene Pool on sec. 19,20s-16e Standard Oil Co. finished No. 73-19F from 7815 ft. flowing 1284 bbls. of clean 28.3 gravity oil and 852,000 cu. ft. of gas before being shut in under 1500 lbs. Top of the good oil sand in this well was found at 7658 ft.

Northerly, in the Coalinga Northeast pool, Amerada Pet. Corp. recompleted S.P.L. No. 26-17B after plugging to 8175 ft. and gun perforating 5¾ in. liner from 8155 to 8175 ft. At last report the well was making 154 bbls. of clean 27.4 gravity oil through a 10/64 in. bean. Tubing pressure was held at 950 lbs. while the casing marked 280 lbs. and 68,000 cu. ft. of gas was metered during the flow period. Located in the southwest quarter of sec. 17,19s-16e, the well was originally finished at 9000 ft. in 1939 flowing a 3190 bbl. rate through a 10/64 in. orifice.

Newton Becomes Hercules Agent

Max A. Newton has become San Joaquin Valley representative for Hercules Oil Well Shooting Co. according to Haskell M. Greene, president. Mr. Newton, long known to Valley oil men, will make his offices at 1425 Union Avenue, Bakersfield, Calif.

Johns-Manville Manual On War-Damaged Pipe

Said to be the first publication devoted to a detailed treatment of the restoration of war-damaged pipe, a new 92-page engineering manual on the repair of distribution and disposal lines, as well as water mains, damaged by enemy action has just been published by Johns-Manville. It is designed to provide the detailed information needed by officials responsible for the maintenance of service in the oil industry, as well as in cities, at military flying fields, bases and other critical areas vulnerable to bombing attacks.

"The manual was prepared as a result of numerous letters from the superintendents in various parts of the country who considered the possibility of bombings and wanted to be prepared," said C. A. McGinnis, manager of the Transite Pipe Department, in announcing the book.

Written especially for the thousands of users of Transite asbestos-cement pipe, the manual is divided into five parts: The first showing actual photographs of bomb damage; the second, typical damage suffered by pipe lines; the third, temporary and permanent repairs; the fourth, installation methods; and the fifth, a group of appendices treating of all the repair parts and tables referred to in the text. Typical experiences with asbestos-cement pipe in bombed British cities are also cited.

The manual analyzes the types of damage most apt to result from direct bomb hits or artillery fire and suggests various temporary repairs designed to restore the damaged lines as quickly as possible, as well as permanent repairs. Included with the suggestions are detailed instructions, illustrated with photographs and diagrams.

In recommending repair methods, Mr. McGinnis pointed out, an effort has been made to utilize, wherever possible, materials which are in general use in order to minimize any difficulty of procurement. Several methods of preparing for possible damage and of making each repair are outlined so that a choice of materials and methods best suited to local conditions may be employed.

The manual is offered without charge to plant engineers, consulting engineers, army and navy engineers, waterworks operators and others who may need it. Copies of the book, DS Series 350, may be secured from Johns-Manville, 22 East 40th Street, New York, N. Y.

San Joaquin Valley

Oil Men's

Barbecue and

Golf Tournament

Avenal, Calif.

June 20

Polvadero Country Club

in other words

by JOHN CLINTON

It's been a long empty while since *Rags* departed this world. We had the house painted and there aren't even any paw marks left. Even the old divan where *Rags* slept out on the porch is gone. Yet—it hasn't been a year!

* * *

Time has suddenly gone crazy like the world. You can't measure it with clocks any more, but in ships, guns, tanks and the probable length of your automobile's life. And today lubrication of the family car is almost as important as Junior's vitamins.

* * *

Now I've never kidded anyone in these columns. They may have been dull here and there, but they've been sincere. And I was never more sincere than I am now when I recommend Stop-Wear Lubrication at Union Oil stations.

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Stop-Wear, first of all, is guaranteed in writing for 1000 miles against faulty chassis lubrication — a guarantee good anywhere in the West. Moreover Stop-Wear is done with special tools and a minimum of 9 exclusive lubricants developed by Union Oil engineers.

* * *

The Minute Men have to graduate from a lubrication school before they can perform any Stop-Wear service. They follow factory specification charts, and they give you written reports on the condition of your car.

* * *

When you get it back you can see the difference in how it looks—you can hear the difference in the quiet-as-a-mouse way it runs, and you can feel the difference in the way it handles. Try guaranteed Stop-Wear, today.

HERE'S ONE FACT ABOUT OUR SUBS

PASSED

BY CENSOR

U. S. submarines use RPM DELO—a lubricating oil for Diesels unequaled in any other country in the world.

The enemy can take this down in his notebook. He can even sneak a camera shot of it. But it won't do him any good.

Because with all the blueprints and photographs in the world he can't copy the calm, hard-headed skill and heroism of the men in our Navy submarines. He can't duplicate the free spirit and unhampered initiative that invented the submarine—and is going to keep on inventing.

And we're proud to say, for our part, that with all the oil in Asia neither he nor anybody else has anything approaching RPM DELO. And this is another thing he cannot copy.

If, at crucial moments, his rings stick and parts freeze—and he has to put in for overhauls many times as often—it will give us great satisfaction to say: . . . *"So sorry!"*

U. S. Navy submarines use RPM DELO and we're here to say that Uncle Sam has first call—and will continue to have first call—on every precious drop he can use.

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LET'S GO! U.S.A. KEEP 'EM FLYING!

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DIESEL ENGINE LUBRICATING OIL

Coastal District

Union Oil Co. Completes Another Santa Maria Well

Union Oil Co. brought in another good well at the west flank of the Santa Maria Field when its Union Sugar No. 14 was completed at a depth of 5152 feet after entering the Franciscan at 5107 ft. Initial production gauged 728 bbls. a day of 18.2 gravity oil cutting 9.8%. 350 ft. of 5½" incl. 328 feet of perforations was landed at 5151 feet and 2½ in. tubing was landed at 5094 feet.

Also located in the westerly portion of the field is Union's Moretti 3-4, which bottomed in brown shale at 5084 feet. 5½in. liner including 182 feet of 180 mesh perforations was landed at 5082, and is standing cemented thru perforations at 4890 feet with 600 sacks. Only other active operator in the area is Signal Oil & Gas Company, which is drilling ahead on Yelkin 8 at 4418 feet.

Shell Oil Co. Continues Red Mountain Activity

In its attempt to discover a new field northwest of Ventura avenue and northeast of San Miguelito, Shell Oil Co. is continuing activity on its Wood No. 1 by pouring foundation. The site is located in sec. 7-3n,23w in the Red Mountain area.

Richfield Seeks New Discovery

Basing its hope for discovery of a new oil producing area upon geophysical factors, Richfield Oil Corp. is drilling Blakey No. 1 in sec. 20-31s-20e in the Carrizo Plains area. The wildcat is being drilled in comparatively unexplored territory since the nearest well, Barnsdall Oil Co's. KCL A-1, which was abandoned at a depth of 5220 ft. was situated four miles to the southeast. The hole has been drilled to a depth of 2196 feet with 11¾ in. casing cemented at 476 feet with 300 sacks and is now spot coring. The drilling of this well, predicated as it is upon geophysics, serves as further indication of the increased use of this explorative media in continued California development.

Richfield to Swab Ojai Deep Test

With the consummation of its drilling contract with Bell and Loffland, Richfield Oil Corp. is rigging up a portable mast on its Ojai No. 44 to continue bailing for production. Drilled originally to a depth of 8755 ft. which is the deepest test ever made in the Ojai area, the well proved unpromising at depth and was plugged back to 5411 ft. A combination string of 4¾ in. including 81 ft. of perforations was run to bottom and cemented through perforations at 5320 ft. This zone also proved unsatisfactory and the hole was plugged to 5111 ft. and the 4¾ in. gun perforated at five intervals for a total of 886 ft. from

COASTAL COUNTIES WILDCATS

Area	Well	No.	Section	Depth	Status
	San Luis Obispo County				
Carrizo Plains	Richfield Oil Corp., Blakey	1	20, 31-20	2196	Drilling
	Santa Barbara County				
Cat Canyon	Alphonzo E. Bell Corp., Gilmore	1	23, 9-33	6457	Idle
Casmalia	Dolly Adams Oil Co., Morganti	2	13, 9-35	1670	Idle
Lompoc	Alphonzo E. Bell Corp., Lompoc	6	28, 8-34		Graded roads
	Fickert Oil Co., Ltd,, Well	1	8, 7-33		Rig
Los Olivos	Tide Water Assoc. O. Co., Davis	1	33, 8-31		RU
Orcutt	Standard Oil Co., Rice Ranch	1	14, 9-34	6240	Drilling
	Ventura County				
Bardsdale	Atha, George C., Assoc. Flory Beach	11	17, 4-19		Grading
	Hopland Oil Co., Well	1	1, 3-19	4634	Idle
	Santa Marino Oil Co., Elkins	1	7, 3-19		Grade
	Ventura Southern Oil Co.	G-1	19, 3-19	4179	Testing
Conejo	Sycamore Oil Co., Boylan	1	23, 1-20	2250	Drilling
	L. A. Basin Oil Co. Well	1	4-1-20	175	Drilling
Eureka Canyon	Phillips & Nichols, Well	1	33, 4-18		Completed
Ojai	Coates, Spencer D., Pirie	5	7, 4-22	718	Drilling
	Kelalee Pet. Co., Harvey	1	8, 4-21		Rig
	Richfield Oil Corp., Ojai	44	13, 4-22	8645	Plugged & C.
Piru	Continental Oil Co., Holser	1	14, 4-18	4344	Testing
	Delroy Pet. Corp., Fisk C. H.	1	22, 5-18	2280	Idle
	Pacific Western Oil Co., Temescal	12	4, 4-18	902	Drilling
Red Mountain	Shell Oil Co., Inc., Wood	1	7, 3-23		Foundation
Sespe	Alford Drlg. & Expl. Co.	1	18, 4-19	2581	Idle
	Highland Drilling Co., Cosby	1	14, 4-19	1996	Idle
	Ivers, H. A. Kentuck	13½	1, 4-20	1660	Drilling
	Volunteer Pet. Co., Tar Creek	3	28, 5-19		Location
	Volunteer Pet. Co., Phillips	2	29, 5-19		Location
Timber Canyon	Crude Oils, Inc., West	1	19, 4-20	958	Idle
	Denison, A. T. Denison	1	13, 4-21	1630	Drilling
	Henderson-Ortez Oil Co., O'Leary	1	29, 4-20		Rig
Torrey Canyon	Union Oil Co., Torrey	60	5, 3-18		Location

NORTHERN COUNTIES WILDCATS

County	Well	No.	Section	Depth	Status
Colusa	Pacific National Pet. Corp.	1	17,17n-4w	1402	Idle
Contra Costa	Tide Water Assoc., Bethel Is.	1	9, 2n-3e	4305	Drilling
Madera	Blake, T. E. Chuck	1	28, 10s-17e		Rig
Merced	T.W.A.-Seaboard-Turlock Ld.	37-18	18, 6s-11e		Fdn. forms
Monterey	Loma Grande Oil Co., Corey	1	23,24s-10e	4318	Testing
San Joaquin	Standard Oil Co., Blewett Com.	3	23, 3s-6e		Rig
Solano	Standard Oil Co., Suisun Com.	2-1	25, 3n-1w	3966	Drilling
Sonoma	Standard Oil Co., Petaluma	2-1	9, 5n-7w	1648	Abandoned
Stanislaus	Don Pedro Oil Co., Newman	1	9, 6s-9e	4074	Testing
Sutter	Buttes Oilfields, Inc., Buttes	8	28,16n-2e	5561	Testing
Yuba	Wright, L. G., Cox	1	18,14n-5e	1805	Idle

2425 to 4357 ft. The shallow zones are the normal ones for this area with the deep zones yet to prove successful.

Ventura Southern Oil Tests Bardsdale Well

Ventura Southern Oil Co. is preparing to deepen McCampbell No. 1 in the Bardsdale area after making a two hour flow test of the interval 4005-4110 feet which showed a light blow. A previous formation test from 3973 feet to 4130 feet open 2½ hours, made a fair to light blow for thirty minutes with a showing of mud, water and a trace of oil in the lower sands. Should these Vaqueros or lower sands prove unproductive, the higher Modelo and Pico intervals already cored will be tested.

Ojai Well Reports Oil Sand

Spencer D. Coates' Pirie No. 5, located approximately 1½ miles southeast of the town of Ojai in sec. 7-4-22w, is drilling ahead after encountering sticky red shale at 718 ft. Oil sand was reported in the interval 630-637 ft.

Bradley and Newman Wells Active in Northern California

Activity in Monterey county is represented by the Loma Grande Oil Co., Corey No. 1 in section 23,24s-10e of the Bradley Area. The well was drilled to a depth of 4004 ft., where tests were made which proved unsuccessful. Deepened to 4318 ft., through chert showing oil, an electric log was run and 816 ft. of 4¾ in. incl. 363 ft. of perforations landed at 4306 ft. and cemented through perforations at 3790 ft. At last report the well was cleaning out to swab for production. Spudded April 1940, the well has worked intermittently as the sole drilling project in the county.

With hole cleaned out to 4020 ft., the Don Pedro Oil Co. tested its Stanislaus county well, Newman 1, sec. 9-6s-9e of the Newman area. With tester set at 3955 ft. and a 250 ft. water cushion, 3150 ft. of muddy water, fine sand and slightly gassy mud near bottom was recovered in 27 minutes. A previous test of the interval 3660-4070 ft. recovered 3300 ft. of mud and 20 ft. of sand.

Continental To Test Piru Area Wildcat

Continental Oil Co. is preparing to test water shut off on 7 in. casing cemented at 4103 ft. in its Ramona anticline wildcat, Holser No. 1 Located in sec. 14,4n-18w approximately 3½ miles southeast of the shallow Piru field, the test encountered fine grained oil sand and some shale and shells at 4103 ft. which carried to bottom at 4344 ft. Characteristic of Modelo age sands, the encountered bodies are difficult of classification and require actual testing to determine their worth.

Science Beats Guesswork Five to One Finding Oil

Science beat guesswork better than five to one in finding new oil fields in 1941, the best record made since figures have been kept.

One out of every five wells drilled last year on the basis of technical advice in the hope of finding a new oil field was successful. Only one of every 27 which was drilled because of a hunch, a doodle-bug, or some other non-technical reason found oil.

Scientific exploration is used in locating most wells in unproved areas today. A single oil well costs anywhere from $25,000 on the average up to $150,000 and more, and even with the help of science the chance of finding oil is only one to five.

Geology, geophysics, geochemistry, or some combination of those scientific methods of mapping underground structures was used in determining the location of 2,399 of the "wildcat" wells drilled in 1941, and 471 of them found oil. Guesswork or some non-technical reason led to the drilling of 801 wells, of which only 30 were successful. Altogether the industry drilled 3,264 wildcat wells; the reason for drilling 64 of them, two of which found oil, is not known.

Normally about one-tenth of all wells drilled each year are wildcat wells, or wells sunk in the hope of finding a new field. Most wells are drilled to develop fields which have been found. This year, however, the total number of wells drilled will drop to a little more than half of the 1941 total because of the shortage of steel. Wildcat drilling is being encouraged, and the proportion of these wells to the total will rise tremendously.

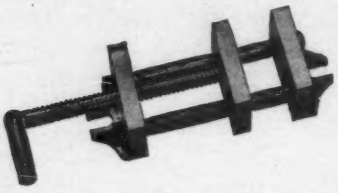
Although scientific exploration has been increasingly successful, the quantity of oil found per successful wildcat has been dropping in recent years. In order to keep the nation's proved oil reserves at safe levels to meet future emergencies, more oil must be found, and a larger number of wildcat wells has been fostered by the government.

One electric dry shaver will keep one man well-groomed, but the copper in a hundred electric dry shavers would make a smoke tank for an airplane—a smoke tank which, by throwing a screen around a fighting ship, might save many American lives.

Bart W. Gillespie, recently associated with H & B Sales Co., has been commissioned a Lieut. Commander in the Navy and is temporarily attached to the Naval Petroleum Reserves branch.

New All-Steel Drill Press Vise

Patterson-Ballagh Corp., 1900 E. 65th St., Los Angeles, California, introduces a simple inexpensive and practical all



steel drill press vise to meet all shop conditions. In all 3 working positions it lies flat on the face plate. Square thread operates against a bronze bushing. The use of two guide bars permits the operator to drill completely through the work without injury to the vise, thereby speeds up production. Admirably adapted to small assembly work and to hold small pieces for machinery, filing, etc., during bench operations. Made in two sizes, that illustrated is a 5½-in. opening, with ears to fasten to face plate. Made also with 3-in. opening, without ears, otherwise the same sturdy construction.

Conductive Belting Ends Static Hazard

"Conductive" rubber belting which will end static caused by friction, dangerous in the oil industry, is announced by the United States Rubber Company.

The product was made possible by a discovery which turned rubber, originally an insulator, into a conductor. Thus in a product made from this substance static electricity which accumulates is harmlessly carried off.

Because of the low resistance of the material, however, there is no danger of an electrical connection from one transmission line to another should an accidental short circuit occur.

The conductivity feature is specially desirable in hazardous areas and also in handling material which carries electrostatic charges. Such material as paper, cellophane, explosive powders are not attracted to a conductive belt. The trade name Uskon will be used.

Transmission belts are the friction surface envelope type. They have been subjected to severe tests at speeds from 100 to 4000 feet per minute with the humidity as low as 16%. When the resistance of the belts ran as high as 100 Magohms, measured between two electrodes one inch apart, these belts had shown no static on a sensitive gold leaf electroscope.

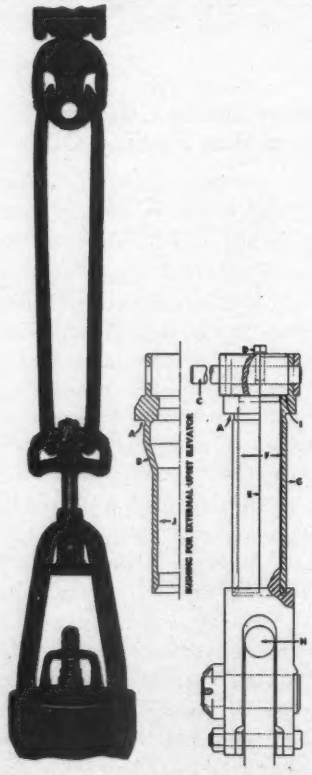
Two types of conveyer belts are supplied, one with a 2500 to 3000 pound long wear conductive cover, and the other with a 100 pound cover for less severe service.

Shull Perforating New Cement Dump

A new Cement Dump with several novel features has been developed by Shull Perforating Co. The ground seat and ball dump valve provide positive closure as the Dump is lowered into the well. Pressure in the well increases the tightness of the seat and prevents dilution and cement losses which are so often encountered in ordinary cement dumps. Another improvement is the automatic tripping mechanism. It opens the dump valve simply by upward movement of the sand line. This puts the Dump under complete control of the operator at all times and permits the placing of cement or chemical in the well casing exactly where it is wanted, without dilution or loss, according to the manufacturer. Jerks on the line due to faulty spooling can not trip the dump release. With the tripping release operated from above rather than by hitting bottom, much time is saved on cement jobs, as repeated trips can be made without having to wait for hardening. This device, named the Dempsey Cement Dump, is machined from alloy steel to resist strains resulting from high speed operation. Sizes range from 1½" to 4½". A new Bulletin describing same may be obtained by writing to Shull Perforating Co., 2750 Cherry Ave., Long Beach, Calif.

Drilling Hooks Of New "Duplex" Design

For certain special uses, the well known BJ Triplex Hooks are now furnished on order with a DUPLEX Body, which attaches in place of the usual Triplex, or 3-hook body.



The left portion of illustration shows the DUPLEX Body used in connection with the new BJ Swivel Bail Adapter to provide a quick, safe means of setting the kelly and swivel into the rat-hole when the drilling string is going-in or coming out of the hole, or when casing is being run. In the line drawing (with the swivel bail H in position) the elevator is closed under a shoulder I on a solid shank when small diameter drill pipe is being used, or under the shoulder A of a bushing (split at E) when larger diameter drill pipe is in service.

By selecting the proper split bushing, each BJ Swivel Adapter will handle several drill pipe sizes; for example: when the shank diameter F is 3½ in. the bushing G can be 4½ in. and the bushing at J will handle 4½ in. external upset drill pipe.

One end of Pin C holds the bushing retaining ring in position, while the other end of this pin protrudes sufficiently to prevent rotation of the swivel in the elevator. A cap screw and lock washer D retain pin C in position.

When the bushing for external upset drill pipe is being used, the load is carried under the shoulder A. The diameter of the bushing at B (being less than the bore of the elevator) serves only to center the bushing in the elevator, thus eliminating the possibility of a bending moment in the Adapter.

The BJ Swivel Bail Adapter is made in sizes for handling all popular sizes of drill pipe, and complete data is available from Byron Jackson Co., Los Angeles, Houston, or New York.

Open Heat Treat Plant In Huntington Park

Good heat treating is an exact science and the new White Heat Treating Co. recently opened for business at 2005 Randolph Street, Huntington Park, Calif. is said to combine the latest in scientific electric furnaces and equipment with a highly trained technical personnel which assures highest-quality work quickly produced. Clarence White is president and organizer of the new firm, with Rolland H. Soll as general manager. Mr. Soll has had many years of metallurgical experience.

All furnaces are of the circulating, atmosphere controlled electric type and are located closely adjacent to the efficient circulating automatic temperature controlled quenching system and heated cleaning and rinsing tanks. Scaling, distortion and decarburization are minimized through the use of these modern furnaces. Other equipment includes a high-speed electric crane traversing the entire plant to facilitate quick handling of the steel from the hardening furnaces into the quenching tanks; an automatic temperature controlled oil quenching tank; Brinnell and Rockwell hardness testers with specially designed attachments which assure correct hardness readings.

This equipment, the very latest in modern machinery, enables the White Heat Treating Co. to specialize in high quality commercial heat treating of war material, and the plant is provided with sufficient electric power installations and floor space for large expansion over the present capacity, and the plant will operate twenty-four hours per day and seven days per week in order to maintain customers' production schedules.

G. E. Establishes New Pacific Office

The Public Relations Section of the Publicity Department of the General Electric Co., Schenectady, N. Y., has recently established its headquarters on the 8th floor of the Russ Building in San Francisco, for the purpose of maintaining the company's contacts with all media having offices located in the Pacific Coast area. Paul C. Wilmore is in charge.

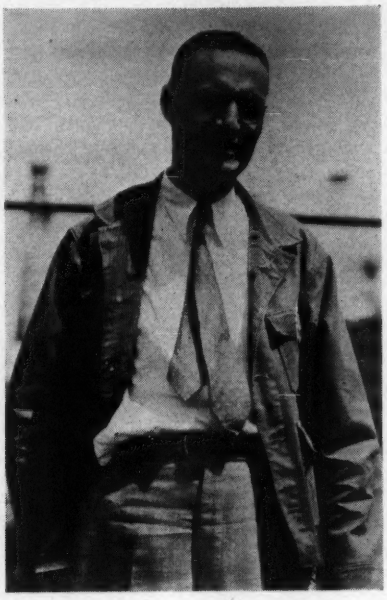
Paul C. Wilmore

Mr. Wilmore is no stranger to the Pacific Coast, as he has been associated with the Appliance and Merchandise Division of General Electric in San Francisco for the past three years. Prior to that time, he was engaged in advertising and public relations work for over eight years in the East, which serves as a background for his recent appointment.

Born in Ft. Wayne, Indiana, Mr. Wilmore attended Ohio State University at Columbus, Ohio. He now lives with his wife and two children at 342 Parrott Drive, San Mateo, Calif.

Francis D. Mahone Dies in Long Beach

Francis D. "Jim" Mahone, assistant chief and design engineer of the Petroleum Rectifying Co. of California died at the Community Hospital in Long Beach, May 16. Lately Mr. Mahone's duties had kept him closely associated with the Petreco Long Beach headquarters. In years past he had carried on engineering work for Petreco in foreign countries, and in major fields all over the United States. He was respected as an extremely resourceful and competent engineer, and his friendship was valued by many men in the industry. He attended



F. D. Mahone

Stanford University and served as a captain in the United States Field Artillery during World War I.

Graham and Kilsby Form Partnership

Gerry Graham and Perry Kilsby have recently formed the firm of Kilsby and Graham with offices at 831 Standard Oil Building, Los Angeles. This partnership will function as successors to Williams & Kilsby which firm is being dissolved due to the death of W. Woodward Williams.

Kilsby & Graham handle the products of Eastern and local firms in the sale and service of those products to the Oil Industry and other Industries on the Pacific Coast.

Gerry Graham has been selling supplies to the Oil Companies in California for twenty years starting with the National Supply Co. in 1922. For the past 3½ years he has been selling Pittsburgh Seamless Oil Country Goods and resigned from Pittsburgh Steel Co. to form the partnership with Mr. Kilsby. Mr. Kilsby, until he came to California several years ago, was for 17 years with The Babcock & Wilcox Tube Co., one of the firms Kilsby & Graham represent on the Pacific Coast.

Navy Secretary Backs Unique L. A. Drilling

Secretary of the Navy Knox has written letters to the Mayor and the Los Angeles City Council in support of the proposal to drill for oil in lower zones at the so-called Gilmore Island, a small area of Los Angeles County which is surrounded by a city residential property. The proposal, made some months ago by a group of Los Angeles oil men, was to house all derricks and machinery in an architecturally beautiful building to be designed for the purpose. Knox's letter cited the need of the armed forces of the United States and of war production industries in the Pacific area for petroleum products, and stated that it was imperative that all possible sources of new production be examined in an effort to increase California's oil reserves.

Hancock Heads Petroleum Accountants

Irving J. Hancock, assistant controller of Union Oil Co. of California, was elected president of the Petroleum Accountants Society at a meeting of the Society's board of directors on June 2. Other officers of the Society for the ensuing year are: N. James Allen (R. E. Bering, Operator) first vice-president; Charles K. Slack (General Petroleum Corp.), second vice-president; and Stanley J. Anderson (Ring Oil Co.), secretary-treasurer.

Mr. Hancock was born in Wisconsin 46 years ago and has lived in Los Angeles for 39 years. He attended the public schools of Los Angeles. His 26 years with the Union Oil Co. of California have given him a wide experience in all phases of petroleum accounting. To his friends he is famous as a barbecue chef and for his color photography. He succeeds D. A. Moore, Wilshire Oil Co., as president of the Petroleum Accountants Society.

The 70,628 tons of lead which were used last year in autos, golf clubs, toys and refrigerators figures out at about four pounds for each of 35 million American families. This four pounds of lead would provide all the lead needed in making five big shells for 240 mm. howitzers.

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"Double Blue Line" Boosts War Effort

With the blacking out of skylights last December, Wire Rope Mfg. & Equipment Co., Pacific Coast maker of "The Double Blue Line," began the busiest period of its busy history. Stranders and closing machines, warehouse capacity and loading facilities were increased at once and with round-the-clock shifts, this famous steel line has been going out to help emergency producers in

scores of war production industries.

Much has been furnished directly to Uncle Sam and through him to the United Nations. But meantime more material than ever before has gone into immediate service in the Oil Industry. With each added five years of history the company has used an aurora sky in its ads, showing the factory with a shaft of wire rope springing from it... War needs have made "two blades of" wire rope "grow where one grew before," and the current ads show these as arms of the Victory "V".

Ten distributors serve the miscellaneous industries on the Coast; four specialize in Oil and contractors lines in California. Right now they are helping to make every line in use last as long as possible. But the factory is backing them with splendid production. These supply houses are The California Wire Cloth Corp., Los Angeles; Hopper Machine Works, Inc., Bakersfield; Medearis Oilwell Supply Co., South Gate; and J. B. Nelson, Long Beach.

Joseph A. Herron, "Joe" to the entire industry, is the factory's Special representative with headquarters at 739 East 60th St., Los Angeles.

Louis C. Chappuis Opens New Office

Louis C. Chappuis, consulting Petroleum Engineer and Geologist, recently moved his office to 305 Subway Terminal Building, Los Angeles. Phone MUtual 4821.

G-E Introduces New Glass Floodlight

A new glass floodlight combining the high reflectivity of silvered glass with unusual resistance to shock has been announced by the Lighting Division of the General Electric Company. The new unit was designed to eliminate vital materials needed for War Effort.

Although the reflecting surface is made entirely of glass, it is completely shatterproof. The reflector is coated by electrolytically deposited metal which together with an over-all backing of porcelain enamel will keep the glass from shattering even if it broken by a severe blow.

The reflector is joined to a metal socket housing which is thoroughly sealed with a heat-resistant gasket and which acts as a preventative against the entrance of water, making the floodlight

corrosion-proof. Door glass and gasket fit solidly against the reflector, further assuring protection against water, dust or dirt. This floodlight, said to be from 10 to 30 per cent more efficient than all-metal units it replaces, utilizes 300- or 500-watt lamps. It is known as G-E Type L-49.

Petroleum Equipment Co. Opens Chicago Office

The Petroleum Equipment Co. has announced the opening of an office at 600 So. Michigan Ave., Chicago, Ill. to expedite orders placed with their manufacturers.

P. S. Hoffman is in charge of the Chicago office. He has been with Petroleum Equipment Co. for the past ten years, headquartering in their main office at Los Angeles, Calif.

The oldest bridge in Minneapolis—a 70-year-old landmark, is going to war. The city has given it to the U. S. for its salvage value and its 450 tons of wrought iron will be processed into steel for military equipment.